FACT SHEET
FOR THE
AQUATIC NUISANCE PLANT AND ALGAE CONTROL GENERAL NPDES PERMIT

SUMMARY

The state of Washington Department of Ecology (Ecology) has tentatively determined to issue a general permit for the application of herbicides to control nuisance aquatic plants and algae in surface waters of the state of Washington and to control vegetation on roadside right-of-way and mitigated wetlands. The permit also authorizes the use of aluminum sulfate to control phosphorus, and thus indirectly control algae. The use of herbicides, algaecides, and aluminum sulfate is subject to the provisions of an approved Integrated Aquatic Vegetation Management Plan (IAVMP) and may be further restricted in salmonid-bearing waters. Monitoring is required and conducted by the Permittee. The proposed terms, limitations and conditions contained herein are tentative and may be subject to change, subsequent to public comments and testimony provided at public hearings. All facilities accepted under the general permit will not be relieved of any responsibility or liability at any time during the life of the permit for: 1) violating or exceeding state water quality standards not specifically addressed in this permit or 2) violating any other local, state, or federal regulation or standard as may pertain to the individual facility. Pesticide applications to surface waters not accepted under a general permit may be required to apply for an individual permit. Any surface water application of herbicide or algaecide found not covered under either the general permit or an individual permit will be considered to be operating without a discharge permit and subject to potential enforcement action.

On March 12, 2001, the Ninth Circuit Court of Appeals decided that discharges of pollutants from the use of aquatic pesticides to waters of the United States require coverage under an NPDES permit, (Headwaters, Inc. v. Talent Irrigation District). Ecology had been issuing regulatory orders that placed protective conditions on the use of herbicides and algaecides in waters of the state. This general permit will replace those orders: 1) where herbicide applications are directed into surface waters of the state for the purpose of controlling aquatic nuisance plants and algae and 2) where herbicides are used for roadside vegetation control and may indirectly get into state waters.

PUBLIC COMMENT AND INFORMATION ON THIS GENERAL PERMIT

A Public Notice of Draft (PNOD) was published in the State Register and newspapers statewide on February 13, 2002. Two (2) public hearings on the draft general permit were held at least thirty (30) days after the date of the public notice. The first hearing was held in the city of Lacey at the Department of Ecology. The second hearing was held in the city of Spokane. A one hour workshop to explain proposed changes and answer questions was held immediately preceding both hearings.

Interested persons are invited to submit comments regarding the proposed issuance of the general permit. Comments on the general permit may have been given at the public hearings as either

written or oral testimony. Written comments may also have been submitted to the Ecology Office at the address below:

Washington State Department of Ecology
Attention: Aquatic Nuisance General Permits Manager
PO Box 47600
Olympia, WA 98504-7600

All comments must be submitted by 5 p.m. on March 25, 2002, to be considered in the final permit determination. A responsiveness summary was prepared and available for public review. It also was sent to all parties who submitted comments by the deadline.

The proposed general permit, fact sheet, application form, and other related documents are on file and may be inspected and copied between the hours of 8:00 a.m. and 4:30 p.m., weekdays at the following Ecology locations:

Washington State Department of Ecology
Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, WA 98902
(509) 454-7298
TDD (509) 454-7673
FAX (509) 575-2809
Contact: Ray Latham

Washington State Department of Ecology
Eastern Regional Office
North 4601 Monroe, Suite 202
Spokane, WA 99205
(509) 456-2874
TDD (509) 458-2055
FAX (509) 456-6175
Contact: Nancy Weller

Washington State Department of Ecology
Northwest Regional Office
3190-160th Ave. S.E.
Bellevue, WA 98008-5452
TDD (206) 649-4259
FAX (206) 649-7098
Contact: Tricia Shoblom

Washington State Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775
TDD (360) 407-6306
FAX (360) 407-6305
Contact: Kerry Carroll

TABLE OF CONTENTS

INTRODUCTION 4

BACKGROUND INFORMATION 5

LEGAL 5
BIOLOGICAL 6
SCOPE OF COVERAGE 6
WATER QUALITY STANDARDS 7
CHEMICAL CONTROLS 7

CLASSIFICATION OF ADJUVANTS 10

SURFACTANTS 10
MARKER DYES 10

DESCRIPTION OF NUISANCE AQUATIC PLANT CHEMICAL APPLICATION 10

REGULATORY POLLUTION REDUCTION REQUIREMENTS 11

TECHNOLOGY-BASED REQUIREMENTS 11
WATER QUALITY BASED REQUIREMENTS 12
SEPA COMPLIANCE 13
GEOGRAPHICAL AREA OF COVERAGE 13

WASTEWATER CHARACTERIZATION 14

CONDITIONAL APPROVAL FOR THE USE OF PRODUCTS NOT SPECIFIED IN THE CURRENT PERMIT 15

OTHER PERMIT CONDITIONS 15

MONITORING 15
REPORTING AND RECORDKEEPING 16
LAB ACCREDITATION 16
PERMIT MODIFICATIONS 16
WHEN COVERAGE IS EFFECTIVE 16
RESPONSIBILITY TO COMPLY WITH OTHER REQUIREMENTS 16

GENERAL CONDITIONS 17

RECOMMENDATION FOR PERMIT ISSUANCE 17

APPENDIX A – REFERENCES 18

APPENDIX B -- GLOSSARY 18

APPENDIX C. RESPONSE TO COMMENTS 26

INTRODUCTION

This fact sheet is a companion document that provides the basis for issuance of the National Pollutant Discharge Elimination System (NPDES) General Permit for Aquatic Nuisance Plant and Algae Control. The Washington State Department of Ecology (Ecology) is proposing to issue this permit, which will allow discharge of herbicides, algaecides, and aluminum sulfate to surface waters of the state of Washington (Waters of the U.S.) for the purposes of controlling nuisance plants and nuisance algae. This fact sheet explains the nature of the proposed discharges, Ecology's decisions on limiting the pollutants in the receiving water, and the regulatory and technical basis for these decisions.

The federal Clean Water Act (FCWA, 1972) and later modifications (1977, 1981, and 1987), established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the state of Washington on the basis of Chapter 90.48 RCW which defines Ecology's authority and obligations in administering the wastewater discharge permit program.

The establishment of a general permit, instead of individual permits, for Aquatic Nuisance Plant and Algae Control is appropriate due to the similar environmental fate specific to each permitted herbicide, the statewide scope of aquatic nuisance plant control, and the significant reduction of resources necessary for permit handling. However, individual permits will still be considered in those instances where a proposed activity requires more detailed guidance or when an individual applicator so desires and Ecology approves.

Regulations adopted by the state include procedures for issuing general permits (Chapter 173-226 WAC), water quality criteria for surface waters (Chapters 173-201A WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastes to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-226-110) for issuing a general permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the draft permit, public hearings, comment periods, and public notice of issuance are all required before the general permit is issued (WAC 173-226-130). The fact sheet, application for coverage, and draft permit are available for review.

This fact sheet and draft permit have been reviewed by a permit advisory group. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, Ecology will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit, and parties submitting comments will receive a copy of Ecology's response. These comments may cause Ecology to change some of the permit requirements. The original fact

sheet will not be revised after the public notice is published. Comments and the resultant changes to the permit will be summarized in Appendix C--Response to Comments.

BACKGROUND INFORMATION

LEGAL

A March 12, 2001, decision by the Ninth Circuit Court in Headwaters, Inc. v. Talent Irrigation District found that an applicator should have obtained coverage under a National Pollutant Discharge Elimination System (NPDES) permit prior to application of aquatic pesticides to an irrigation canal in Oregon. The canal discharged water into a creek where a fish kill occurred. The decision addressed residues and other products of aquatic pesticides.

Headwaters, Inc. and Oregon Natural Resources Council filed a Clean Water Act citizen suit against the Talent Irrigation District (TID) for applying aquatic herbicide into a system of irrigation canals. Reversing a district court's opinion, the Ninth Circuit held that application of the herbicide in compliance with the labeling requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) did not exempt TID from having to obtain an NPDES permit, and that the irrigation ditches were "waters of the United States" under the Clean Water Act..

The Federal Insecticide, Fungicide, and Rodenticide Act of 1979 (FIFRA), as administered by the United States Environmental Protection Agency (EPA), requires that all persons who apply pesticides classified as restricted use be certified according to the provisions of the act or that they work under the supervision of a certified applicator. Commercial and public applicators must demonstrate a practical knowledge of the principles and practices of pest control and safe use of pesticides, which is accomplished by means of a "core" examination. In addition, applicators using or supervising the use of any restricted use pesticides purposefully applied to waters of the state (excluding applicators engaged in public health related activities) are required to pass an additional exam to demonstrate competency as described in the code of federal regulations as follows:

> "Aquatic applicators shall demonstrate practical knowledge of the secondary effects which can be caused by improper application rates, incorrect formulations, and faulty application of restricted pesticides used in this category. They shall demonstrate practical knowledge of various water use situations and the potential of downstream effects. Further, they must have practical knowledge concerning potential pesticide effects on plants, fish, birds, beneficial insects, and other organisms which may be present in aquatic environments. Applicants in this category must demonstrate practical knowledge of the principles of limited area application." (40 CFR 171.4)

The NPDES permit process requires application by the discharger and issuance of a permit by the permitting authority. The permitting authority incorporates technology-based limitations, water quality-based limitations, and standard regulatory requirements into the permit. The permit also incorporates monitoring and reporting requirements to assure the compliance with the limitations of the permit.

BIOLOGICAL

The following is a brief description of the problems caused by nuisance aquatic plants and algae in addition to a brief description of the current control methods. For more detailed information the reader is referred to the references cited in the back of this fact sheet (Washington State Department of Ecology 1980, 1992, 2001).

Aquatic plants provide habitat and food for aquatic life. Human activities have created unwanted alterations in native aquatic ecosystems. Nutrient additions to watersheds from human activities have caused increased growth of plants and algae. These plants and algae may increase to the point where they interfere with some uses of the water such as swimming and boating. Some types of algae are even toxic and have caused animals to die from ingesting toxic algae while drinking.

Ecology has examined various options (mechanical or manual, biological, and chemical) for aquatic plant and algae control (Ecology 1980, 1992). The obvious solution to most lake plant and algae problems is to prevent the nutrients from entering the lake or altering the nutrient balance; however, these options are sometimes not available or economical. Therefore, Ecology has determined that chemical control methods are acceptable to maintain the beneficial uses if conducted occasionally or if conducted within an integrated aquatic plant management plan. This NPDES general permit is only for chemical control methods. Mechanical/manual methods of aquatic plant control still require a Hydraulic Project Approval (HPA) from Washington Fish and Wildlife (WDFW). The use of grass carp requires a permit from Washington Fish and Wildlife. Some projects such as large scale removal of vegetation may also require a State Environmental Policy Act (SEPA) determination through local shoreline ordinances.

SCOPE OF COVERAGE

This permit covers the application of herbicides, algaecides, and aluminum sulfate to directly or indirectly reduce or eliminate aquatic nuisance weeds or algae. Specifically, this permit covers the following applications:

1. Application of herbicides and algaecides to lakes and reservoirs to control nuisance aquatic plants and maintain beneficial uses. These applications may be for the whole lake or part of the lake.
2. Application of aluminum sulfate to lakes and reservoirs to control phosphorus and therefore indirectly control algae.
3. Application of herbicides by governmental agencies such as the Department of Transportation or County Road Management companies or individualsto right-of-way and mitigated wetlands to control nuisance and noxious plants.

Discharges may be covered by an Integrated Aquatic Vegetation Management Plan (IAVMP), which may also be called a Lake Management Plan or a (Roadside) Vegetation Management Plan. Guidance for an Integrated Aquatic Vegetation Management Plan, which incorporates Integrated Pest Management principles, is available from Ecology at (www.ecy.wa.gov/programs/wq/plants/management). An IAVMP is recommended by the

Washington State Department of Fish and Wildlife (WDFW) for some types of Hydraulic Project Approvals WDFW (Publication APF-1-98).

The permit allows discharges without an approved IAVMP; however, those not covered by a plan are allowed for only two years of year-to-year coverage while a plan is being developed. These projects are limited in scope and require additional monitoring. Coverage with an approved IAVMP is for the duration of the permit.

WATER QUALITY STANDARDS

The Water Quality Standards of the State of Washington (Chapter 173-201A) are promulgated as numeric and narrative conditions designed to maintain the beneficial uses of the waters of the state of Washington. In order to assure a balance of beneficial uses in lakes, Ecology must restrict some types of activities. This general permit assumes that an Integrated Aquatic Vegetation Management Plan (IAVMP), which covers all or a substantial part of a lake, wetland, or other water of the state and which has been subject to public review is sufficient demonstration of a balancing of beneficial uses. Therefore, the permit places fewer restrictions on aquatic nuisance plant control when it is done within the purview of an IAVMP which incorporates integrated pest management principles. The permit allows for a full five year coverage under a single application for those Permittees that have an approved IAVMP.

A permit applicant will be allowed only two application seasons to an area per permit cycle without an IAVMP. Individual permit applications for lakes and reservoirs without an IAVMP will be limited to a maximum of 50% of vegetated area per application season. The permit also requires more monitoring and reporting for those applicants without an approved IAVMP.

Projects covered under an approved IAVMP for right-of-way and mitigated wetland vegetative control are assumed to meet water quality standards because the application to water is incidental. There is no restriction on the area of coverage for these applications.

CHEMICAL CONTROLS

Chemicals used in control of nuisance aquatic plants and algae are called herbicides. Herbicides used for algae control may be called algaecides. Herbicides and algaecides may also be called pesticides.

An herbicide formulation consists of an active ingredient, an inert carrier, and perhaps adjuvants. Every herbicide must be registered for use in the United States by the EPA. The state Department of Agriculture also approves herbicides and algaecides for use in Washington.

The chemicals examined for coverage by this permit and their anticipated uses are listed below.

2,4-D (2,4-Dicholorophenoxy acetic acid) – Systemic, selective, used primarily as a post-emergent herbicide. Dissipation of 2,4-D is mostly by microbial degradation. A small amount of photodecomposition and breakdown by tolerant plants also occurs. Volatile forms of 2,4-D are not used for aquatic weed control and therefore volatilization is not an important route of disappearance after aquatic weed control applications. Complete decomposition usually takes

about three weeks in water and can be as short as one week. The form approved for aquatic use in Washington State is 2,4-D butoxyethyl ester (BEE). This chemical is approved for use in this permit.

Diquat dibromide [6,7-dihydrodipyrido(1,2-a:2´,1´-c) pyrazinediium dibromide] – A non-selective, broad-spectrum contact herbicide with only local translocation. Diquat kills both submerged and emerged plants. In the 1992 Supplemental Environmental Impact Statement (SEIS), Ecology determined that diquat should not be used because of the lack of critical information on toxicological and ecological effects. Diquat will be reevaluated in a supplemental environmental impact statement expected in 2002.

Endothall – Dipotassium salt of (7-oxabicyclo[2,2,1] heptane-2,3-dicarboxylic acid) – Contact, nonselective, used for submerged and emergent aquatic vegetation. Like 2,4-D, endothall is rapidly and completely broken down into naturally occurring compounds by microorganisms. The by-products of endothall dissipation are carbon dioxide and water. Complete breakdown usually occurs in about two weeks in water and one week in bottom sediments. This chemical is approved for use in this permit. Some current commercial formulations are Aquathol® and Aquathol®K.

Endothall – Mono(N,N-dimethylalkylamine) salt of (7-oxabicyclo[2,2,1] heptane-2,3-dicarboxylic acid) – Contact herbicide used to control aquatic plants and algae**.** This chemical is approved for use in this permit. A current commercial formulation is Hydrothol®191

Fluridone – Systemic, nonselective, used for submerged aquatic vegetation. Dissipation of fluridone from water occurs mainly by photodegradation. Metabolism by tolerant organisms and microbial breakdown also occurs, and microbial breakdown is probably the most important method of breakdown in bottom sediments. The rate of breakdown of fluridone is variable and may be related to time of application. Applications made in the fall or winter when the sun's rays are less direct and days are shorter result in longer half-lives. Fluridone usually disappears from pond water after about three months but can remain up to nine months. It may remain in bottom sediment between four months and one year. This chemical is approved for use in this permit. A current commercial formulation is SONAR®.

Glyphosate (N-(phosphonomethyl)glycine) – Systemic, nonselective, used for floating and emergent vegetation. Glyphosate is not applied directly to water for weed control, but when it does enter the water it is bound tightly to dissolved and suspended particles and to bottom sediments and becomes inactive. This chemical is approved for use in this permit. Some current commercial formulations are Rodeo® and Pondmaster®.

Copper compounds (primarily as copper sulfate or as a copper chelate) – Systemic, selective for algae and primarily used as an algaecide. This pesticide differs from other herbicides in that Washington State has specific acute and chronic numeric criteria for the protection of aquatic life in the water quality standards. Copper compounds are typically applied at a concentration of 0.2 to 2 ppm copper. The water quality criterion to protect aquatic organisms is 0.017 ppm (acute @ 100ppm hardness) as dissolved copper. In algae-laden waters dissolved copper tends to bind to

particulates and becomes less toxic as bound copper. This probably accounts for the fact that copper treatments do not typically cause massive fish kills. The larger environmental problem with copper is that it does not degrade into other compounds. Continued use will result in high copper concentrations in the lake sediments. This copper is toxic to benthic organisms at concentrations of 50 to 100 mg/kg (Ecology 1991) and may become soluble under anaerobic conditions. Any toxicity to benthic organisms is a violation of Chapter 173-204 WAC (Sediment Management Standards). All natural lakebeds are the property of the state of Washington and managed by the Department of Natural Resources. Contamination of lake-bottom sediments creates a financial liability for the state when concentrations reach cleanup levels. On private lake bottoms the copper may become an "extremely hazardous waste" as defined in RCW 70.105.010 because the control is for algae, therefore any copper residual in the bottom sediments becomes a "residue." Continued use of copper on private lake area would create a site subject to cleanup under Chapter 70.105 RCW (Hazardous Waste Cleanup -- Model Toxics Control Act). There is some evidence that copper use increases phosphorus concentrations which then leads to higher algae concentrations in the future. There is also evidence that copper use leads to a shift in the dominant algae to the blue-green species. Partial lake applications for algae with copper are only temporary unless the treated area is screened from the rest of the lake. Therefore, this permit does not allow copper compounds to be used for algae control.

Aluminum Sulfate - An acceptable alternative for copper for the indirect control of planktonic algae is aluminum sulfate. Aluminum sulfate removes phosphorus in the water column. Phosphorus is typically the limiting nutrient for algal growth in fresh water so the treatment removes the cause of the problem although, again, partial lake treatments cannot solve the problem in the lake. In the course of treatment with aluminum sulfate a flocculant precipitate is formed which also removes the planktonic algae. Aluminum is very low toxicity when compared to copper and is usually naturally present in high concentrations in soils and sediment. Some caution is necessary in whole lake treatments to avoid acidic conditions. The permit therefore requires whole lake aluminum sulfate treatments to be conducted as part of an IAVMP. Partial lake treatments are allowed under restricted conditions.

Another alternative for copper in the control of filamentous algae is the amine salt of endothall (Commercial formulation is Hydrothal 191) (see discussion below).

Aquatic herbicides can disappear from treated water by dilution, adsorption to bottom sediments, volatilization, absorption by plants and animals, or by dissipation. Dissipation refers to the breaking down of an herbicide into simpler chemical compounds. Herbicides may dissipate by photolysis (broken down by light), microbial degradation, or metabolism by plants and animals. Both dissipation and disappearance are important considerations to the fate of herbicides in the environment because even if dissipation is slow, disappearance due to processes such as adsorption to bottom sediments makes an herbicide biologically unavailable.

Aquatic herbicides are generally not persistent in treated water. They disappear rapidly. Disappearance is greatest when spot treatments are made in large bodies of water because the

dominant effect is dilution. Aquatic herbicides are water soluble and quickly dilute to non-detectable concentrations. They disappear at different rates and by different methods.

CLASSIFICATION OF ADJUVANTS

Adjuvants can be grouped into three categories: activator adjuvants, spray-modifier adjuvants, and utility-modifier adjuvants. The only adjuvants used for nuisance aquatic weed control are surfactants and marker dyes described below. For more information on adjuvants see McWhorter (1982).

SURFACTANTS
Surfactants are commonly used herbicide additives associated with the enhancement of penetration of the spray solution through the leaf tissues. The increase in leaf penetration is associated with a reduction of surface tension of liquids, which improves wetting of the leaf surface. Increased penetration may also be due to the surfactant dissolving leaf tissue components.

MARKER DYES
Low toxicity dyes may be added to the spray mixture to mark the area where otherwise colorless mixtures have been applied. Dyes used in this way help to reduce overspray and underspray.

The permit does not shield for inerts or adjuvants for which the chemical composition has not been disclosed to Ecology.

DESCRIPTION OF NUISANCE AQUATIC PLANT CHEMICAL APPLICATION

The four primary application methods and nozzle considerations in nuisance aquatic plant control are:

1. **Handgun spraying**: Handguns are equipped with nozzles that provide a high flow rate (3 to 6 gal/minute), a straight stream, and a large droplet size. This arrangement ensures thorough wetting of the target vegetation with minimum spray drift. Low volume back pack sprayers are often used for emergent plant control. The applicator may also wick or “paint” the herbicide directly onto the targeted plant.

2. **Subsurface injection**: The herbicide is dispensed just below the water surface for submersed weed control. Usually short hoses are spaced at approximately 2-ft intervals on a short, bow or stern-mounted boom. Hoses are just long enough to place the nozzle at the water surface or just below it. The nozzle body contains a disk that meters the flow into the water.

3. **Bottom placement or deep-water injection**: Nozzles are located at the end of long hoses that trail from a boom on the bow of the boat. Hoses are usually weighted to keep the herbicide placement deep within the weed mat or near the bottom. A common arrangement involves

constructing a nozzle by drilling small holes in a piece of galvanized pipe. The length of the pipe depends on how much weight is needed to lower the hose to the desired depth. Pipe length varies from 9 to 30 in. The pipe is capped on one end and attached to the hose on the other. Deep-water injection hoses must not have any clamps or protrusions that will catch and hold plants.

4. **Bow-mounted centrifugal or blower-type spreaders:** Granular herbicides are normally applied with a bow-mounted centrifugal or blower-type spreader. Centrifugal spreaders use a rotor that slings the material. Blower-type spreaders use air pressure to propel the granules.

REGULATORY POLLUTION REDUCTION REQUIREMENTS

Federal and state regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits, either technology- or water quality-based must be chosen for each of the parameters of concern.

TECHNOLOGY-BASED REQUIREMENTS
Sections 301, 302, 306, and 307 of the FWPCA established discharge standards, prohibitions, and limits based on pollution control technologies. These technology-based limits are "best practical control technology" (BPT), "best available technology economically achievable" (BAT), and "best conventional pollutant control technology economically achievable" (BCT). Technology-based effluent limits may be taken from the federal effluent guidelines or developed on a case-by-case basis, otherwise known as Best Profession Judgment (BPJ). BPJ limits may be numerical limits or Best Management Practices (BMPs).

The state has similar technology-based requirement for pollutant control described as: "all known, available and reasonable methods of control, prevention, and treatment" (AKART) methods. AKART is referred to in state law under RCW 90.48.010, RCW 90.48.520, 90.52.040 and RCW 90.54.020. The federal technology-based limits and AKART are similar but not equivalent. AKART may be more stringent than federal regulations and may include requirements which are in state regulation.

The pesticide application industry has been regulated by EPA under the terms of *t*he Federal Insecticide, Fungicide, And Rodenticide Act, *(*FIFRA). Use of pesticides is regulated by label use requirements developed by EPA. In developing label use requirements, EPA requires the pesticide manufacturer to register each pesticide and provide evidence that the pesticide will work as promised and that environmental harm will be minimized. The standards for environmental protection are different between the CWA and FIFRA; however, this permit specifies that the Permittee must meet label requirements.

The Legislature established in that prevention of pollution in this case is reasonable only in the context of an Integrated Pest Management Plan (Chapters 15.92 –Center for Sustaining Agriculture and Natural Resources and 17.15- Integrated Pest Management RCW). Integrated Pest Management Plans require the investigation of all control options, but stop short of requiring non-chemical pest controls as the preferred option. The goal of Integrated Pest Management (IPM) is to establish the most effective means of control whether chemical, non-chemical, or a combination. Most nuisance weed control strategies are such a combination. In this permit, the principles of IPM have been adopted into plans which are specific for control of nuisance aquatic plants, (Integrated Aquatic Vegetation Management Plan), or for control of roadside vegetation (Regional Roadside Vegetation Management Plan) as discussed previously.

Treatment of the pollutants addressed in this permit is difficult due to the diffuse nature and low concentrations that exist after the pesticides have become waste. The Talent decision established that aquatic pesticides become waste in the water after the pesticide has performed its intended action and the target organisms are controlled. Treatment of waters where pesticide residues threaten to cause unacceptable environmental harm may be needed in some situations, but not routinely.

Control of the pollutants addressed in this permit has been demonstrated previously in isolated situations where a routine application of the preferred pesticide may have caused unwanted impacts on non-target organisms. Underwater curtains and other barriers have been used to isolate the area of pesticide application when downstream water users raise concerns or sensitive native plants or fisheries share the waterbody. Control of pesticides by use of barriers will not be required in this permit. Additional control measures may be triggered by FIFRA requirements, WSDFW requirements, or other local concerns identified during public notice of application for conditions which are specific to the application site and could not be anticipated in the development of this permit.

WATER QUALITY BASED REQUIREMENTS

The aquatic plant and algae control activities affect surface waters of the state. These waters are protected by chapter 173-201A WAC, Water Quality Standards for Surface Waters of the State of Washington. The purpose of these standards is to establish the highest quality of state waters through the reduction or elimination of contaminant discharges to the waters of the state, consistent with: public health; public enjoyment; the propagation and protection of fish, shellfish, and wildlife; and existing and future beneficial uses. This purpose is reached, in part, by compliance with the limitations, terms, and conditions of the general permit.

The nuisance aquatic plant control activities which discharge, directly or indirectly, to surface waters shall be required to meet the state water quality standards for Class A and Class AA surface waters as given in chapter 173-201A WAC. The characteristic beneficial uses of Class AA and A surface waters include, but are not limited to, the following: domestic, industrial, and agricultural water supply; stock watering; the spawning, rearing, migration and harvesting of fish; the spawning, rearing and harvesting of shellfish; wildlife habitat; recreation (primary contact, sport fishing, boating, and aesthetic enjoyment of nature); commerce and navigation.

RCW 90.48.035 authorizes establishment of water quality standards for waters of the state. The state has implemented water quality standards in chapter 173-201A WAC. All waste discharge permits issued pursuant to NPDES regulations are conditioned in such a manner that all authorized discharges shall meet State water quality standards. Standards include an "antidegradation" policy which states that beneficial uses shall be protected.

Discharges from nuisance weed control activities may contain pollutants which, in excessive amounts, have a reasonable potential to cause, or contribute to, violations of state water quality due to the presence of toxic materials and the effects of dying vegetation. Ecology has determined that, when properly applied and handled in accordance with the terms and conditions of the general permit, nuisance weed control activities will comply with state water quality standards, will maintain and protect the existing characteristic beneficial uses of the surface waters of the state, and will protect human health. New information regarding previously unknown environmental and human health risks may cause Ecology to modify this general permit.

In determining whether a discharge will be in compliance with the state's Water Quality Standards, Ecology uses the numeric and the narrative criteria of Chapter 173-201A WAC (Water Quality Standards for Surface Waters of the State of Washington), Chapter 173-204 WAC (Sediment Management Standards) and the National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992. In the absence of numeric criteria, Ecology may develop a numeric criterion on a case-by-case basis to comply with the narrative criteria.

Ecology has reviewed the ecological effects of the chemicals used for control of nuisance weeds and algae (Ecology 1980, 1992, 2001). The criteria developed to assure compliance with the water quality standards vary with the chemical but typically are implementation of BMPs such as target application rates, application methods, and other methods to assure beneficial uses are maintained in a waterbody.

SEPA COMPLIANCE

Nuisance weed control activities have undergone numerous environmental impact evaluations. The use of pesticides is conditioned to mitigate potential environmental impacts of concern noted in these evaluations. This permit and fact sheet will undergo SEPA review and each IAVMP will also undergo SEPA review.

GEOGRAPHICAL AREA OF COVERAGE

For the purposes of the general permit, the nuisance plant control activities for which the general permit is valid includes surface waters of the entire state.

Surface water situations, which are exempt from permit coverage include:

Man-made detention ponds for wastewater or stormwater treatment where those ponds are covered by a separate individual or general NPDES permit.

WASTEWATER CHARACTERIZATION

TABLE 1. CHEMICALS AUTHORIZED BY THIS PERMIT

PERMITTED Herbicides Used for Nuisance Aquatic Plant and Algae Control

Typical Product Name	Active Ingredient	Active Ingredient Use Rate	Active Ingredient Concentration in Treated Waters	Use
DMA 4 IVM Liquid	2,4-Dichrophenoxyacetic acid, dimethylamine salt	5.4 to 10.8 pounds/acre foot	2 to 4 ppm	Applied as a liquid into the water
Navigate Granular	2,4-Dichrophenoxyacetic acid, butoxyethyl ester	19 pounds/acre	2-4 ppm	Applied as a granular pellet into the water
Sonar SRP Granular, Sonar AS Liquid, Avast	Fluridone: 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-4(1H)-pyridinone	0.05 to 0.25 pounds/acre foot	20 ppb to 90 ppb	Applied as a granular pellet or liquid into the water
Aquatholl K Liquid, Aquatholl Granular, Aquatholl Super K Granular	Endothall: Dipotassium salt of 7-oxabicyclo[2.2.1]hepta ne-2,3-dicarboxylic acid	5.5 to 11 pounds/acre foot	2 ppm to 4 ppm	Applied as a liquid or granular pellet into the water
Hydrothall 191	Endothall: Mono(N,N-dimethylalkylamine) salt of (7-oxabicyclo[2,2,1] heptane-2,3-dicarboxylic acid)		0.2 ppm	Algaecide
Rodeo Aqua Pro	Glyphosate: N-(phosphonomethyl) glycine, isopropylamine salt			Sprayed on plants, not into water

Typical Product Name	Active Ingredient	Active Ingredient Use Rate	Active Ingredient Concentration in Treated Waters	Use
LI 700	Phosphatidylcholine, methylacetic acid and alkyl polyoxyethylene ether	Total spray volume of adjuvant not to exceed 5%		Surfactant
Chemicals for Indirect Algae Control Through Phosphorus Removal				
Aluminum Sulfate $Al_2(SO_4)_3$ Various commercial names	Aluminum	Approx. 5ppm Al. Use rate is dependent upon sufficient alkalinity to maintain pH		Phosphorus removal
Sodium Aluminate	Aluminum			Phosphorus removal

CONDITIONAL APPROVAL FOR THE USE OF PRODUCTS NOT SPECIFIED IN THE CURRENT PERMIT

This permit allows the use of products not evaluated in the current Environmental Impact Statement (EIS) according to a procedure specified in the permit. This procedure requires a risk assessment produced in accordance with Ecology's criteria. Use of a new chemical is then also contingent upon public notification.

OTHER PERMIT CONDITIONS

MONITORING

Monitoring of environmental variables such as pH and dissolved oxygen is required as process control parameters for some chemical applications where there is the probability of rapid degradation of plant material.

An evaluation of the effectiveness of the herbicide application is required of all Permittees.

Monitoring of residual pesticides is required to confirm assumptions of non-persistence when applications are performed in compliance with the pesticide label. Monitoring of residual pesticide is required for whole lake herbicide applications, herbicide applications near drinking and stock watering water withdrawal sites where native vegetation or threatened or endangered

species are likely to be affected, or applications to sites where the total area of treatment exceeds ten acres. The intent of this monitoring is to gather information to confirm the assumptions of persistence and toxicity relative to the rate of application. This information may better define the period of temporary diminishment of beneficial uses.

REPORTING AND RECORDKEEPING
The conditions of Section S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-226-090).

LAB ACCREDITATION
With the exception of certain parameters used for process control the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, Accreditation of Environmental Laboratories.

PERMIT MODIFICATIONS
Ecology may modify this permit to impose new or modified numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, or Ecology-approved engineering reports. Ecology may also modify this permit as a result of new or amended state or federal regulations.

WHEN COVERAGE IS EFFECTIVE
Unless Ecology responds in writing to any facility's Application for Coverage or obtains relevant written public comment, coverage under this general permit of such a facility will commence on the later of the following:

> The thirty-eighth (38^{th}) day following receipt by Ecology of a completed and approved Application for Coverage which includes public notice or
>
> If Ecology desires to respond in writing to any facility's Application for Coverage or obtains relevant written public comment, coverage under this general permit of such a facility will not commence until Ecology is satisfied with the results obtained from written correspondence with the individual facility and/or the public commenter.

RESPONSIBILITY TO COMPLY WITH OTHER REQUIREMENTS
Ecology has established, and will enforce, limits and conditions expressed in the general permit for the discharge of aquatic herbicides and algaecides registered for use by the EPA and the Washington State Department of Agriculture. These agencies will enforce the use, storage, and disposal requirements expressed on pesticide labels. The Permittee must comply with both the pesticide label requirements and this general permit conditions. The general permit does not supersede or preempt federal or state label requirements or any other applicable laws and regulations.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and are included in all aquatic pesticide general permits. Some of these have supplemental text for clarification of how they apply for this permit. Many of these regulations obviously are not applicable to the application of herbicides.

RECOMMENDATION FOR PERMIT ISSUANCE

The general permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. Ecology proposes that the general permit be issued for five (5) years.

APPENDIX A – REFERENCES

McWhorter, C. G. 1982. The use of adjuvants. Pages 10-25. In Adjuvants for Herbicides. Weed Sci. Soc. of Amer., Champaign, IL.

Washington State Dept. of Fish and Wildlife. 1998. Aquatic Plants and Fish. Publication # APF-1-98.

Washington State Dept. of Ecology. 1980. Environmental Impact Statement: Aquatic Plant Management.

Washington State Dept. of Ecology. 1991. Summary of Criteria and Guidelines for Contaminated Freshwater Sediment. Appendix to Ecology 1993 Sediment Source Control Users Manual.

Washington State Dept. of Ecology. 1992. Final Supplemental Impact Statement and Responsiveness Summary (FIES): Aquatic Plants Management Program for Washington State.

Washington State Dept. of Ecology. 2001. Final Supplemental Impact Statement for Freshwater Aquatic Plant Management. Ecology Publication No. 00-10-040.

APPENDIX B -- GLOSSARY

“Adjuvent” means a chemical which enhances the action of the primary chemical.

"Administrator" means the administrator of the EPA.

“Antidegradation Policy” is as stated in WAC 173-201A-070.

"Authorized representative" means:

1. If the entity is a corporation, the president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operation facilities, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. If the entity is a partnership or sole proprietorship, a general partner or proprietor, respectively; and

3. If the entity is a federal, state, or local governmental facility, a director or the highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or his/her designee.

The individuals described in paragraphs 1 through 3, above, may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible, and the written authorization is submitted to Ecology.

"Best management practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state and their sediments. BMPs also include, but are not limited to, treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

“CAS” is an abbreviation for Chemical Abstract Service, a division of the American Chemical Society. Chemical Abstract Service is responsible for standardizing names of chemicals. Each chemical is assigned a numeric code number. For more information see www.cas.org .

"Code of Federal Regulations (CFR)" means a codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government. Environmental regulations are in Title 40.

"Composite sample" means the combined mixture of not less than four (4) "discrete samples" taken at selected intervals based on an increment of either flow or time. Volatile pollutant discrete samples must be combined in the laboratory immediately prior to analysis. Each discrete sample shall be of not less than 200 ml and shall be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for Examination of Water and Wastewater.

"Conveyance" means a mechanism for transporting water or wastewater from one location to another location including, but not limited to, pipes, ditches, and channels.

"Daily maximum" means the greatest allowable value for any calendar day.

"Daily minimum" means the smallest allowable value for any calendar day.

"Dangerous waste" means the full universe of wastes regulated by Chapter 70.105 RCW and Chapter 173-303 WAC, including hazardous waste.

"Degrees C" means temperature measured in degrees Celsius.

"Degrees F" means temperature measured in degrees Fahrenheit.

"Department" means the Washington State Department of Ecology.

"Detention" means the collection of water into a temporary storage device with the subsequent release of water either at a rate slower than the collection rate or, after a specified time period has passed, since the time of collection.

"Director" means the director of the Washington State Department of Ecology or his/her authorized representative. Director for other agencies also means the Agency director or his/her authorized representative.

"Discharger" means an owner or operator of any "facility," "operation," or activity subject to regulation under Chapter 90.48 RCW.

"Discrete sample" means an individual sample which is collected from a wastestream on a one-time basis without consideration to flow or time, except that aliquot collection time should not exceed fifteen (15) minutes in duration.

"Effluent limitation" means any restriction established by the local government, Ecology, and EPA on quantities, rates, and concentrations of chemical, physical, biological, and/or other effluent constituents which are discharged from point sources to any site including, but not limited to, waters of the state.

"Environmental Protection Agency (EPA)" means the U.S. Environmental Protection Agency or, where appropriate, the term may also be used as a designation for a duly authorized official of said agency.

"Erosion" means the wearing away of the land surface by movements of water, wind, ice, or other agents including, but not limited to, such geological processes as gravitational creep.

"Existing operation" means an operation which commenced activities resulting in a discharge, or potential discharge, to waters of the state prior to the effective date of the general permit for which a request for coverage is made.

"Facility" means the actual individual premises owned or operated by a "discharger" where process or industrial wastewater is discharged.

"FWPCA" means the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), as now or as it may be amended.

"General permit" means a permit which covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger.

"Gpd" means gallons per day.

"Grab sample" is synonymous with "discrete sample".

"Ground water" means any natural occurring water in a saturated zone or stratum beneath the surface or land or a surface waterbody.

“Hazardous waste" means those wastes designated by 40 CFR Part 261, and regulated by the EPA.

"Individual permit" means a discharge permit for a single point source or a single facility.

"Industrial wastewater" means water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade, or business from the development of any natural resource, or from animal operations such as feedlots, poultry house, or dairies. The term includes contaminated stormwater and also, leachate from solid waste facilities.

“Indirect Application” means application of glyphosate or 2,4-D to emergent vegetation for the control of nuisance or noxious vegetation along public highways or in constructed or mitigated wetlands containing wetted surface at the time of application or will contain wetted surface during the life of the active component of the herbicide.

"Mg/L" means milligrams per liter and is equivalent to parts per million (ppm).

"Monthly average" means that value determined by the summation of the instantaneous measurements during any single month divided by the number of instantaneous measurements collected during that same single month.

"Municipal sewerage system" means a publicly owned domestic wastewater facility or a privately owned domestic wastewater facility that is under contract to a municipality.

"New operation" means an operation which commenced activities which result in a discharge, or a potential discharge, to waters of the state on or after the effective date of an applicable general permit.

"Noxious weed" means a plant that when established is highly destructive, competitive, or difficult to control by cultural or chemical practices.

"NPDES" means the National Pollutant Discharge Elimination System under section 402 of FWPCA.

“Nuisance aquatic weeds” means non-noxious aquatic plants which are at a density and location so as to substantially interfere or eliminate activities such as boating, swimming, fishing, waterskiing, or other beneficial uses of the water.

"Operation" is synonymous with "facility".

"Party" means an individual, firm, corporation, association, partnership, co-partnership, consortium, company, joint venture, commercial entity, industry, private corporation, port district, special purpose district, irrigation district, trust, estate, unit of local government, state

government agency, federal government agency, Indian tribe, or any other legal entity whatsoever, or their legal representatives, agents, or assignee.

"Permit" means an authorization, license, or equivalent control document issued by Ecology to implement Chapter 173-200 WAC, Chapter 173-220 WAC, Chapter 173-216 WAC and/or Chapter 173-226 WAC.

“Permittee” generally means the individual, organization, or governmental agency sponsoring the nuisance weed control activities and the licensed applicator; however, a governmental agency which hires many contractors in a season may elect to be the sole Permittee.

"Person" is synonymous with "party."

"pH" means the logarithm of the reciprocal of the mass of hydrogen ions in grams per liter of solution. Neutral water, for example, has a pH value of 7 and a hydrogen-ion concentration of 10^{-7}. pH is a measure of a substance's corrosivity (acidity or alkalinity).

"Point source" means any discernible, confined and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

"Pollutant" means any substance discharged, if discharged directly, would alter the chemical, physical, thermal, biological, or radiological integrity of the waters of the state, or would be likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety, or welfare, or to any legitimate beneficial use, or to any animal life, either terrestrial or aquatic. Pollutants include, but are not limited to the following: dredged spoil; solid waste; incinerator residue; filter backwash; sewage; garbage; sewage sludge; munitions; chemical wastes; biological materials; radioactive materials; heat; wrecked or discarded equipment; rock; sand; cellar dirt; pH; temperature; TSS; turbidity; color; BOD_5; TDS; toxicity; odor; and industrial, municipal, and agricultural waste.

"Priority pollutant" means those substances listed in the federal 40 CFR Part 423, Appendix A, or as may be amended.

"Process wastewater" means water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product.

"Publicly owned treatment works (POTW)" is synonymous with "municipal sewerage system."

“Publicly Accessible Areas” - Known public access points or areas that the applicator(s) knows that the public uses, along right-of-ways and any beach or access point to water.

"Reasonable times" means at any time during normal business hours; hours during which production, treatment, or discharge occurs; or times when Ecology suspects occurrence of a violation.

"Regional administrator" means the regional administrator of Region X of the EPA or his/her authorized representative.

"Retention" means the collection of water into a permanent storage device, with no subsequent release of water.

"Severe property damage" means substantial physical damage to property, damage to the pretreatment facilities or treatment/disposal facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays or losses in production.

"Shall" is mandatory.

"Significant" is synonymous with "substantial".

"Significant process change" means any change in a facility's processing nature which will result in new or substantially increased discharges of pollutants or a change in the nature of the discharge of pollutants, or violate the terms and conditions of this general permit, including but not limited to, facility expansions, production increases, or process modifications.

"Site" means the land or water area where any "facility," "operation," or "activity" is physically located or conducted, including any adjacent land used in connection with such facility, operation, or activity. "Site" also means the land or water area receiving any effluent discharged from any facility, operation, or activity.

"Small business" has the meaning given in RCW 43.31.025(4).

"Standard Industrial Classification (SIC) Code" means a classification pursuant to the Standard Industrial Classification Manual issued by the U.S. Office of Management and Budget.

"State" means the state of Washington.

"Substantial" means any difference in any parameter including, but not limited to, the following: monitoring result, process characteristic, permit term or condition; which Ecology considers to be of significant importance, value, degree, amount, or extent.

"Surface waters of the state" means all waters defined as "waters of the United States" in 40 CFR 122.2 within the geographic boundaries of the state of Washington. This includes lakes, rivers,

ponds, streams, inland waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

"Total suspended solids (TSS)" means total suspended matter that either floats on the surface of, or is in suspension in water or wastewater, expressed in mg/L.

"Toxic amounts" means any amount, i.e., concentration or volume, of a pollutant which causes, or could potentially cause, the death of, or injury to, fish, animals, vegetation or other desirable resources of the state, or otherwise causes, or could potentially cause, a reduction in the quality of the state's waters below the standards set by Ecology or, if no standards have been set, causes significant degradation of water quality, thereby damaging the same.

"Toxics" means those substances listed in the federal priority pollutant list and any other pollutant or combination of pollutants listed as toxic in regulations promulgated by the EPA under section 307 of the FWPCA (33 U.S.C. 1317 et seq.), or Ecology under Chapter 173-200 WAC, Chapter 173-201A WAC, or Chapter 173-204 WAC.

"Unirrigated" means any lands having not been irrigated within 10 days prior to, or within 60 days after the application of any wastestream.

"Upset" means an exceptional incident in which a discharger unintentionally and temporarily is in a state of noncompliance with permit effluent limitations due to factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation thereof.

"Wastewater" means liquid-carried human wastes or a combination of liquid-carried waste from residences, business buildings, or industrial establishments.

"Waters of the state" means all waters defined as "surface waters of the state" and all waters defined as "waters of the state" in RCW 90.40.020.

"Water quality" means the chemical, physical, biological characteristics of water, usually in respect to its suitability for a particular purpose.

“Water Quality Preservation Area (WQPA)” means waters which have been designated as high quality waters based upon one or more of the following criteria:

> Waters in designated federal and state parks, monuments, preserves, wildlife refuges, wilderness areas, marine sanctuaries, estuarine research reserves, and wild and scenic rivers.
>
> Aquatic habitat having exceptional importance to one or more life stage of a candidate of listed priority species, established by the state Department of Fish & Wildlife, or a federally proposed or listed threatened or endangered species.

Rare aquatic habitat, ecological reference sites, or other waters having unique and exceptional ecological or recreational significance.

"Water quality standards" means the state of Washington's water quality standards for ground waters of the state (Chapter 173-200 WAC), the State of Washington Sediment Management Standards (Chapter 173-204 WAC), the State Of Washington's Water Quality Standards for Surface Waters of the State (Chapter 173-201A WAC) and the National Toxic Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

“Wetlands” means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions such as swamps, marshes, bogs, and similar areas. This includes wetlands created, restored, enhanced ,or preserved as part of a mitigation procedure action. This does not include constructed wetlands for the following surface waters of the state intentionally constructed from non-wetland sites: irrigation and drainage ditches, grass-lined swales, detention facilities, canals, agricultural detention facilities, farm ponds, sewage treatment lagoons, and landscape amenities. However, wetlands, as permitted by the appropriate authority, may include those artificial wetlands intentionally created from non-wetlands areas to mitigate loss of wetlands. These artificial wetlands created for mitigation are not considered wetlands of the state until excavation is completed and water is allowed to freely occupy the site. At that point, it is assumed that the hydrology is in place and will support the wetland functions and values intended by a wetland mitigation plan.

In the absence of other definitions as set forth herein, the definitions as set forth in 40 CFR Part 403.3 shall be used for circumstances concerning the discharge of wastes.

APPENDIX C. RESPONSE TO COMMENTS

1. SUMMARY OF SIGNIFICANT CHANGES AS A RESPONSE TO COMMENTS ON THE DRAFT PERMIT

Ecology has determined that the following changes to the permit are not a substantial change from the draft permit and therefore a second public comment period is not necessary.

A requirement has been placed in the permit that requires a plan for avoidance of harm to threatened or endangered plants when threatened or endangered plants are known to be in the application area.

The requirement for consultation with the Department of Fish and Wildlife has been made the same for Endothall and 2,4-D.

The permit scope has been broadened to cover the private sector for control of invasive and exotic plants at wetland mitigations sites. A definition of indirect application has been added to the permit.

The posting requirement for the use of glyphosate in indirect applications was reduced.

The requirement for notification of Ecology prior to application was changed.

An alternative method of analysis (ELISA) is allowed for fluridone, 2,4-D and endothall.

2. COMMENTS

The following is a list of commenters and the corresponding comments. Responses follow each comment. Comments which are not directed to the permit, or which address typographical errors or formatting suggestions are not included here. Some comments have been summarized.

Commenter 1. Kim Antieau and Mario Milosevic
Representing – private citizens

Commenter 2. Heather Hansen (written and verbal testimony)
Representing – Washington Friends of Farm and Forest

Commenter 3. Ken S. Berg
Representing – U.S. Fish and Wildlife

Commenter 4. Shara Stelling
Representing – private citizen

Commenter 5. John Carleton
Representing – WA Dept Fish and Wildlife

Commenter 6. Mary Repar
Representing – private citizen

Commenter 7. Wendy Sue Wheeler
Representing – WA Dept of Agriculture

Commenter 8. Gene Williams
Representing – Snohomish County

Commenter 9. William Higday
Representing – private citizen

Commenter 10. Brian Lind
Representing – Applied Biochemists

Commenter 11. Ken Schlatter
Representing – WA Dept. of Transportation

Commenter 12. Patrick Svoboda
Representing – WA Dept. of Transportation

Commenter 13. Kathy Hamel
Representing – Dept. of Ecology

Commenter 14. Kerry Carroll
Representing – Dept. of Ecology

Commenter 15. Jerry Dierker
Representing – private citizen

Commenter 16. Tom Nogler
Representing – private citizen

Commenter 17. Colleen Wasneir
Representing – private citizen

Commenter 18. David Swindale
Representing – Lake Louise Improvement Club

Commenter 19. Doug Dorling
Representing – Allied Aquatics

Commenter 20. Terry McNabb
Representing – AquaTechnex

Commenter 1.

Comment 1: Pesticides should not be permitted anywhere near anyone's drinking water! The permit process should be as restrictive as possible. It should be nearly impossible (if not impossible) for pesticides to be used near water, period. If you can't or won't prohibit the use of pesticides near water then make the permitting process very difficult.

Response: The permit places restrictions on those herbicides with possible human health effects. Those that withdraw water from the lake must acknowledge the application by signing a notice.

Comment 2: Five years for a general permit is too long. How stringent are the requirements going to be? Will they be enforced?

Response: Five years is the standard length of time for an NPDES permit, however, if problems arise during the course of the permit it can be modified. The requirements are specified in the permit. The requirements are taken from orders that have been written and issued for this activity for many years. In addition, the label requirements must be followed. The requirements of the permit will be enforced by Ecology and are subject to citizen enforcement; however, this permit will probably not be a high priority for Ecology's enforcement activities.

Comment 3: When chemicals are used all their inert and active chemicals should be named, along with their short and long-term effects for those who have been exposed to them.

Response: The active compounds are named and scientific research has been conducted on the environmental and human health effects. The commercial formulations (active components and

inert components) have been tested by the U.S. Environmental Protection Agency for environmental and human health effects for FIFRA registration.

Comment 4: I think that Ecology should require all entities who spray to inform the public in the most visible manner possible, and in a manner in which the most people will be informed: what areas will be sprayed, during what period, and what chemicals or biological agents will be used. It is important to include biological agents, too. For example, Bt, once thought as a benign agent is coming under increased scrutiny for its long-term environmental effects. Furthermore, I think all water sources (especially where there are salmonids) should be marked (with a very visible marker or post) and mapped out and the maps available for public review.

Response: This permit has public notice requirements and requirements for posting notices near the application site.

Comment 5: In Skamania, we have a lot of little creeks that run-off into the Columbia River. What are the spray requirements for these little creeks? Salmon do use some of these creeks. Will the applicator have to deal with Federal entities, too?

Response: This permit does not allow herbicide application to small creeks. For roadside vegetation spraying, the required plan should address how to avoid getting spray into small creeks.

Comment 6: Aquatic herbicides. P.10 of Fact sheet 27, states "Aquatic herbicides are water soluble and quickly dilute to non-detectable concentrations. They disappear at different rates and by different methods." They do not disappear. They are either diluted to non-detectable levels or they are bound up in some manner or form as to not be detectable in their original state, or they recombine into something else. Nothing ever disappears on this planet. Everything recycles through, in one form or another. We live in an interconnected ecosystem. Detection is critical to any program, and I don't think that our methods of detection are good enough to measure some of the chemicals and their by-products that are being dumped into our environment. Low-level or a non-detectable level does not mean that a chemical is no longer lethal or does not have short-term or long-term effects. Non-observable effect does not mean no effect is present--it just means our instruments and thinking are not good enough to find it or figure it out!

Response: Comment noted.

Comment 7: How and when is the SEPA review actually initiated? Your Fact Sheet states each IAVMP (Integrated Aquatic Vegetation Management Plan) will undergo SEPA review. What does this actually mean? Is this going to be a public process?

Response: A SEPA review will be required for each application and for the IAVMPs. This means that an Environmental Checklist (WAC 197-11-960) will need to be submitted with each plan sent to Ecology for review and approval. If it is a private entity making the submittal Ecology will be the SEPA lead and make a threshold determination. If the SEPA plan comes from a public

entity, that entity will be the SEPA lead and make the threshold determination. The threshold determination will either be a determination of non-significance (DNS) which will trigger a 14-day public comment procedure (see WAC 173-801-100) or more likely it will trigger a determination of significance (DS) with a notice of adoption of Ecology Environmental Impact Statement (EIS) in support of their DS. A DS determination triggers a 7-day waiting period before the plan can be implemented. Under either scenario, applications for coverage for the nuisance plant permit will be posted on Ecology's WebPages as a public notice service.

Comment 8: Monitoring. Monitoring is a very big part of any IAVMP program. That is the first step that one takes in order to figure out just exactly what one is trying to control. Monitoring means keeping records and having those records available for public review.

Response: Any records of monitoring conducted as part of this permit are available for public review.

Commenter 2

Comment 9: The proposed requirements for the general permit for aquatic nuisance plant and algae control impose an unnecessary and unwarranted financial burden on pesticide applicators and the homeowners they serve. While it is understood that Washington must comply with the *Talent* decision, the proposed permit, as currently written, represents a significant increase in cost for program implementation and management. A less cumbersome permit should be adopted that meets without exceeding the requirements of the *Talent* decision.

Response: The requirements for this permit were for the most part taken directly from the water quality modification orders which Ecology has been issuing for years

Comment 10: NPDES permits were designed for discharges of wastewater from facilities. For example, public-owned treatment works (public utilities) and private manufacturing plants both discharge mixed-wastes into public water bodies. Mixed-waste discharges have *highly variable* physical and chemical properties (i.e. never the same waste-load mixture twice) and require a high level of environmental monitoring to ensure protection of natural resources. In order to assess the impacts of these discharges on public water supplies and aquatic habitats, traditional NPDES permits require monitoring and occasionally special studies.

Unlike variable waste discharges, herbicides are deliberately applied to surface waters, according to EPA and State-approved labels, for the specific purpose of *protecting* a public water body from the deleterious effects of aquatic vegetation. Herbicide products contain *known* amounts of ingredients. The maximum use rates are known (i.e. maximum environmental concentrations), the number and intervals for reapplication are known (i.e. from efficacy and environmental fate data), the product's biodegradability and persistence are known, and the associated impacts on aquatic life are known (i.e. from toxicity tests, bioaccumulation tests, reproduction tests, field studies and risk assessments). Special studies are unnecessary and redundant.

Response: It's unclear what special studies are being referred to in this comment. The permit requires monitoring for the chemical which is being applied and for those environmental factors

which affect the degradation rate of those chemicals. The definition of pollutant in the Talent decision was residual herbicide, which is what the permit requires to be monitored.

Comment 11: The maximum *dose* or *treatment* concentration, *exposure* conditions and *toxicity* is known, and thus the *risk* is known. The proposed general permit creates unnecessary public health "alarm" by requiring extensive notification. Extensive public notification and warning provisions are unnecessary and should be eliminated.

Response: Ecology believes that informing the public prior to an application creates less "alarm."

Comment 12: The spill plan adds unnecessary expense and go beyond what is needed. Existing plans should be adequate. Aquatic weed control programs using herbicides have been properly administered for years.

Response: Ecology believes that any time chemicals and petroleum products are used in a commercial operation near the water it makes sense to react to spills. The permit has requirements for spill response and notification but does not require a written plan. We believe it makes sense for an applicator to have a plan for the workers to assure compliance with the permit.

Comment 13: Hiring scientific experts and contract analytical and toxicological testing laboratories for monitoring requirements and possible environmental impact surveys; investing in long-term file storage facilities and implementing a file tracking and retrieval system; having chemical containment and clean-up knowledge as well as equipment available at all times; additional staff for advertising, filing, monitoring, tracking, sampling, transporting, alerting, application monitoring, etc. All of these things unnecessarily increase the cost of weed control.

Response: The requirements for this permit were for the most part taken directly from the water quality modification orders which Ecology has been issuing for years, so the costs of treatment should remain equivalent. The maintenance of records is part of the NPDES regulations.

> Comment 14: The fact sheet states that the permit is needed for applications to roadside rights-of-way and mitigated wetlands. The Talent decision was specific to direct applications to water. The Departments interpretation goes far beyond what Talent required. The department has repeatedly stated that their intent was not to go beyond what Talent required.

Response: Our permitting actions are based on recommendations of our Assistant Attorney General.

> Comment 15: The fact sheet states that the permit is REQUIRED and applications made without a permit will be subject to enforcement action. For the past year, including during legislative testimony, the Department stated that the permits were be "offered as a shield to protect applicators form third party lawsuits." The indication was that the Department was

trying to help users, not hinder their operations by requiring additional permits. Why the dramatic shift in purpose?

Response: We believe we said that we are doing this permit to offer people doing this kind of activity a compliance pathway. We are not going to make enforcing this permit a priority (just like we did not make enforcement for this sector a priority in the past). In fact, we view this as some of our lower priority work. However, if we become aware of activities that endanger human health and the environment, we will follow up just like we would have in the past (no change, no increase or decrease of emphasis just because of the permit).

Comment 16: The introduction states that the draft permit was reviewed by an advisory group and that although comments are being accepted; the fact sheet will not be changed. The advisory group made numerous recommendations that are not reflected in current draft. It should be revised after public comment has been received.

Response: These responses will become part of the fact sheet. Any revisions as a result of public comment will be made to the permit. The fact sheet is a record of decision-making on the permit. By putting the response to comments as an appendix to the fact sheet it clearly shows the changes in the permit that were made as a result of comments. The advisory group made numerous recommendations that are reflected in the current draft fact sheet and permit.

Comment 17: The portions of FIFRA that require pesticide applicators to be trained and licensed are described. The portions of FIFRA that describe the pesticide registration system were not included. To adequately characterize existing pesticide regulations, the FIFRA registration system should be described, including the additional environmental testing and data that is required for an aquatic registration. (The pesticide registration division at WSDA could help with this.)

Response: It's not possible to put all the background information for this permit into the fact sheet. Anyone who wants more information on the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) or the Federal Environmental Pesticide Control Act (FEPCA) could consult *Environmental Law*, 2nd Edition by William H. Rodgers, Jr. (West Publishing Co., 1994).

Comment 18: This section allows a very limited list of chemicals only. Triclopyr, imazapyr, and diquat have all received EPA approval for control of aquatic weeds. By restricting their use, Ecology is hampering the effectiveness of aquatic weed control programs and unnecessarily increasing costs. New chemicals are being developed and registered for aquatic uses on a regular basis. By limiting the permit to such a short list, Ecology may very well be keeping applicators from using the most environmentally sensitive product. The list does not allow any algae controls.

Response: Triclopyr and imazapyr are not registered for aquatic use at this time. In addition, we believe an EIS is required before these chemicals can be used and this permit allows the use of additional chemicals when an EIS is completed. The permit allows for a risk assessment, which is equivalent to an EIS, to then be able to use additional chemicals.

The permit allows the use of aluminum compounds for indirect algae control.

Comment 19: Page 10 – CLASSIFICATION OF ADJUVANTS
The Fact Sheet states that, "The permit does not shield for inerts or adjuvants for which the chemical composition has not been disclosed to Ecology." This statement completely eliminates the shield making the permit useless. Products are registered by EPA as a whole. Inert ingredients are part of the formula. Federal law protects the confidential formula as long as the patent is in place. This statement far overreaches Ecology's authority and appears to conflict with several federal laws.

This statement also conflicts with pages 8 and 9 of the permit, which specifically authorizes the use of herbicides and adjuvants named in the permit.

Response: An NPDES permit shields a discharger from enforcement for non-compliance with the water quality standards if the permittee is in compliance with the permit and they have made full disclosure of the discharge characteristics (see EPA memorandum of 1995 from R. Perciasepe – *Revised Policy Statement on Scope of Discharge Authorization and Shield Associated with NPDES Permits*). In the current permit, the active ingredients are known and have been evaluated in an EIS by Ecology. The other components of the commercial formulation are not known. The only instance where permit shield would become an issue is if there was a discovery of aquatic toxicity or human health problems from components not disclosed. Ecology is not responsible for conflicts in federal laws. We have removed the wording from the permit. We are authorizing the use of herbicides but we don't believe the permit shields for those components not disclosed.

Comment 20: Page 12 – REGULATORY POLLUTION REDUCTION REQUIREMENTS
The fact sheet states, "The legislature established that prevention of pollution in this case is reasonable only in the context of an Integrated Pest Management Plan." (Chapters 15.92 – Center for Sustaining Agriculture and Natural Resources and 17.15 – Integrated Pest Management RCW).

RCW 17.15 clearly states that it applies to state agencies only. Legislative intent was very specific that it was not to apply to anyone other than state agencies. Therefore, IPM plans should not be required of private applicators applying to private lakes. RCW 17.15 does not include any authorization to require APPROVAL of an IPM plan by any government agency. RCW 15.92 applies to the creation of a special sub-unit within Washington State University and is irrelevant to any other unit of state government.

The fact sheet states, "Integrated Pest Management Plans require the investigation of all control options, but stop short of requiring non-chemical pest controls as the preferred option." Integrated pest management does not make any "requirement." It describes a decision making process. IPM is a wonderful tool that should be encouraged, but it is inappropriate and unwarranted for Ecology to require or approve such plans.

(Note: Washington State University was one of the original pioneers in developing the concepts of IPM. Perhaps some of the scientists there could assist Ecology with understanding the concepts of IPM.)

Response: Thank you for clarification of legislative intent. We agree that IPM is a wonderful tool and that is why we have incorporated the concept into the required *Integrated Aquatic Vegetation Management Plan*. This requirement is imposed under authority of 40 CFR 122.44(k) and Chapter 90.48 RCW.

Comment 21: Page 7 – E. 1. A. Under what authority, and with what expertise, will Ecology develop criteria and approve IVM plans for aquatic herbicide use?

Response: See preceding response for authority. Ecology has several staff with expertise by education and experience in aquatic vegetation.

Comment 22: Page 9 – S2. The first sentence on page 9 refers to a list of pesticides as pollutants. We strongly object to this term. These are legal products specifically registered by the EPA for a beneficial purpose. The EPA does not register products that have not demonstrated a beneficial purpose. The judge in Talent referred to breakdown products of pesticides as pollutants, not the product itself.

Response: Thank you for your interpretation of the *Talent* decision.

Comment 23: Page 9 – S2. See comments for page 10 of the fact sheet. Inert ingredients are part of the product formula as registered by EPA. This statement conflicts with itself and with statements on page 8.

Response: As explained previously, authorization and shield are two different concepts.

Comment 24: Page 10 – S2. A. Consent should be obtained from legal water users only. The applicator should not be expected to seek out illegal water users who may be trying to hide their use and therefore be unwilling to sign anything. Keeping records for seven years increases costs.

Response: This is a label requirement; therefore, the permit cannot authorize anything less stringent.

The records retention has been made five years which is the standard NPDES regulatory requirement.

Comment 25: Page 10 – S2. A. 2. E. If fish biologists are to stop the use of endothall, they must provide clear rational and respond in adequate time for the applicator and lake district to make other plans.

Response: We assume fish biologists would provide clear rationale for objecting to an application. The timing depends on their workload. (See comments from Carleton below)

Comment 26: Page 18 – S9. 2. How long will it take Ecology to conduct and approve a risk assessment? In the mean time, limiting the use of newer products hinders weed control, increases costs and may be less environmentally sensitive.

Response: There are too many factors involved in a risk assessment to be able to predict the timing. Others are able to conduct risk assessments for Ecology to approve.

Comment 27: Page 19 – S9. 3. Ecology will grant or deny approval based on public opinion, not science. Based on the response to public comment, Ecology could deny a more environmentally sensitive product because of emotional comments from people who have no understanding of science.

Response: Ecology strives to make decisions based on the best science but the use of pesticides is a controversial resource issue.

Commenter 3

Comment 28: Is wildlife habitat considered in "other beneficial uses" as stated in the definition of nuisance plants? If so, then we recommend that Ecology conduct a risk/benefit analysis to determine whether the risk to rare/sensitive or listed species habitat degradation outweighs the benefit to recreation-based beneficial use, as part of the permit issuance decision-making process.

Response: Wildlife habitat is considered a beneficial use of state's waters and is listed as such in Chapter 173-201A WAC. Wildlife habitat is one of the required considerations in the development of an IAVMP. Ecology has developed an EIS for the products approved in this permit and the permit imposes the mitigation measures given in the EIS. We do not believe that any further risk assessment is necessary.

Comment 29: S1.D.1: To reduce the potential for harm to listed species from herbicide exposure, we recommend that permit holders contact the Service for Technical Assistance to determine if listed species are present in the area(s) to be sprayed. The Service contacts are:

Jim Michaels
U.S. Fish and Wildlife Service
Western Washington Fish and Wildlife Office
510 Desmond Drive SE, Suite 102
Lacey, Washington 98503-1263
Phone: (360) 753-7767

Suzanne Audet
U.S. Fish and Wildlife Service
Upper Columbia Fish and Wildlife Office
11103 E. Montgomery Drive
Spokane, Washington 99206
Phone: (509) 893-8002

Response: These contacts will be listed in the Appendix A of the permit.

Comment 30: S1.D.4: We recommend that the notice include information on the presence of Federal and State listed species in the vicinity of the area being sprayed, and that Ecology consider this information when deciding to issue the permit. If species are present, and Ecology decides to issue the permit, then avoidance or minimization measures should be recommended.

Response: For those herbicides that have some risk of harming aquatic life, the permit requires consultation with and approval by State Fish and Wildlife.

A requirement for avoidance has been placed in the permit.

Comment 31: S2.A.2.d: Include the following statement: "Contact the local WDFW Biologist prior to pesticide application to determine if the area to be treated is in salmonid spawning and rearing habitat."

Response: The permit already requires consultation with WDFW before Endothall and 2,4-D are applied.

Comment 32: S3.G. and S8: Clearly define which appropriate program in Ecology should be contacted in the event of a fish kill, observation of distressed fish, or discharge of a herbicide in State waters. Also, the Service should be notified if listed species are killed or adversely affected from a spray or spill event. We recommend that a spill plan be submitted to Ecology prior to the first spray event.

Response: The response to any noncompliance with the permit is made to the regional office, which issues the coverage under this permit. Mortality to any aquatic vertebrates is prohibited by the permit. If listed species are involved Ecology would notify WDFW and the US Fish and Wildlife. Ecology often requires spill plans to be submitted for approval, but hasn't for this permit because of the small potential for spills.

Comment 33: S9.2: The Service would like to participate in the preparation of risk assessments. The risk assessments should contain all available toxicity information on sub-lethal effects of pesticides, surfactants, and adjuvants on potentially exposed species. Additionally, an analysis of mixtures and degredates should be included. Where there is an opportunity for choice, the least toxic surfactant (considering sub-lethal effects) should be used. At a minimum, surfactants that are hormonally active agents should be avoided.

Response: Ecology will seek input from the Services in any future risk assessments.

Commenter 4

Comment 34: How are changes to the General Permit handled once it is final? Do you have to go through the public notice/comment period again? I would like to be kept apprised of changes to the permit in the future. Especially, if they are more stringent.

Response: Any modification to the permit requires public notice and comment. Ecology maintains a list of people interested in this permit and would send notice of modification directly to those people.

Comment 35: Page 7 S1. D.4. Sentence regarding the 30 day public comment period. What if Ecology receives comments and requires time to address concerns. Ecology will have to ensure that the applicant is aware that the permit is not automatically awarded at the end of the 38 day period.

Response: Ecology will notify the applicant if comments will delay coverage.

Comment 36: Page 8 2. Clarify last sentence. What does …'will allow coverage for the remainder of the term of this General Permit.' mean?

Response: An applicant may be submitting an IAVMP in the second, third, or fourth year of this permit. When they submit an application with an approvable IAVMP they receive coverage for the remaining term of this general permit.

Comment 37: Page 8, F. Change a to an before IAVMP. Does the 38 days still apply to major modifications?

Response: The 38 days apply if the modifications are acceptable.

Comment 38: Page 8, S2. First sentence. Add comply with label requirements. Example: All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit, and the application requirements/restrictions on the label.

Response: Following label restrictions is a requirement given in the third paragraph of this section.

Comment 39: Page 10 A. Last sentence. Is the written consent to be kept on record for seven or five years? Stated as seven (5) years.

Response: Five years

Comment 40: Page 19. Is public notification the same as required elsewhere in the permit? How many times must they publish?

Response: The requirement for public notice of a risk assessment is for a one-time publication. Ecology may also list these on our web site.

Comment 41: Page 20 G4. What is substantially increased? Who determines?

Response: Ecology generally uses a guideline of 10 percent but this depends on the nature of the discharge.

Comment 42: Page 21 F. Should have applicator disclose if any unpaid permit fees and or penalties. Will Ecology check before the permit is approved? Ecology should not issue permit to those with unpaid fines and or fees.

Response: Ecology does not enforce the fee regulation by not issuing discharge permits.

Comment 43: Page 21. Does the applicator have to be licensed in the state of Washington? If so, should add to list of cases involving revocation of coverage.

Response: Applicators must be licensed in the state of Washington. The Department of Agriculture enforces this requirement.

Comment 44: Page 21 G5. Last paragraph. Should include title with WAC. Can the permittee request temporary coverage for any of the A through G revocations? Clarify.

Response: Coverage under this permit may be revoked for reasons given in G5. A through G. The last paragraph is applicable to all causes for revocation.

Comment 45: Page 23 G13/15 B2. These conditions appear to be wastewater treatment facility related.

Response: The General Conditions of this permit are based on Federal or State regulations, which are applicable to all NPDES permits. The wording is directly from regulation. Even though some may not be appropriate for a given discharge situation they are required to be in the permit.

Comment 46: Page 24 C. Indicates that if the sponsor hires a contractor other than the original applicant, the sponsor may send a written notification to Ecology. Page 22 G8 indicates that Ecology is notified.

Response: The word may is changed to must.

Comment 47: Page 25, G18. How can an expired permit be in force and effect?

Response: An expired permit remains in effect until renewed just as this paragraph says. This is authorized by Chapter 34.05 RCW *Administrative Procedure Act*.

Comment 48: Page 25 G19 Can an expired permit be extended?

Response: Yes

Comment 49: Page 25 G23. When does the permittee have to submit payment of the fees?

Response: Fees are paid when the applicant receives a bill from Ecology, which will be after the applicant receives a notice of coverage.

Commenter 5

Comment 50: We support your efforts to develop the General Permit and to balance the often conflicting needs of providing tools for nuisance aquatic plant control while also adequately protecting other natural resources. We believe that monitoring requirements under the NPDES Permit, as well as your increased emphasis on the development of integrated aquatic vegetation management plans, should add to the protection of (especially) fish.

Response: Comment noted.

Comment 51. Our staff have expressed concern over two issues brought up by the draft general permit: workload from the consultation requirements, and potential impacts on fish from the use of Endothall. To solve the first issue, WDFW intends to develop a general timing table for the protection of fish. This table should be applicable for both the noxious and nuisance aquatic plant permits. We will submit the table to Ecology when it is finalized.

Response: Comment noted.

Comment 52. On the issue of Endothall toxicity, we note that you have significantly narrowed the scope of potential impact through conditions placed in the general permit. The more toxic allowable formulation, Hydrothol 191, may only be used to control filamentous algae, and treatment must occur from the shoreline outward to allow fish avoidance. Concentrations are limited to a maximum of 0.2 mg a.e./L. We note that there are no specific references to WDFW providing timing restrictions for Hydrothol 191, as there are for Aquathol and 2,4-D. Hopefully, this is an oversight. As mentioned above, we do plan to provide you with a timing table, designed to minimize the presence of salmonids in the treatment zone of affected waters. Other factors contributing to protection are the general prohibition on causing mortality or long-term suppression of invertebrate populations, and the monitoring requirement, which we hope will be used to verify level of impact and support adaptive management.

Response: The consultation requirement for Hydrothol® 191 has been made the same as for Aquathol K®

Comment 53. The final concern we have with language of the general permit has to do with consistency of the references to WDFW consultation, and the associated scope of our agency review for fish protection. Under section S2, Restrictions on Application of Herbicides and Algaecides, subsection A, Specific Restrictions for Direct Aquatic Application, consultation and protection sections are different for Aquathol K, Hydrothol 191, and 2,4-D, with further differences from conditions under subsection B, applicable to the use of Rodeo at construction sites, wetland mitigation sites, rights-of-way, etc. References vary among >endangered species,= >salmonid smolts,= and >threatened and endangered salmonids and other sensitive species.= It may be that these differences are intentional. Even if so, we ask you to clarify our agency responsibilities and authorities for each of the different chemicals, and to use consistent language where possible. In addition, references to listed species should be consistent and specific (for example, to the federal Endangered Species Act) unless there is a reason for the differences.

Response: Aquathol K, Hydothol 191, and 2,4-D all have some reported toxicity to fish. These are summarized in the Final Supplemental Environmental Impact Statement for Freshwater Aquatic Plant Management (Ecology Publication 00-10-040). For example, Hydrothol 191 is acutely toxic to fish at concentrations ranging from 0.079 mg a.e./l for cutthroat trout to 0.82 mg/l for sheepshead minnow. The most sensitive fish and stage seems to be salmonids at the smolt stage. When these chemicals are used in accordance with label restrictions and restrictions of this permit most fisheries will not be affected. However, if there is a sensitive (endangered or smolt stage) salmonid or amphibian population in the proposed treatment area, the WDFW may wish to impose more restrictions or prohibit the treatment. The requirements for consultation with WDFW have been made the same. Glyphosate (Rodeo and Roundup) has very low demonstrated aquatic toxicity so no consultation is required.

Commenter 6

Comment 54. I live in Stevenson, WA, in Skamania County, and we have a lot of flowing creeks (from which people draw their drinking water), lakes, roadside ditches filled with water (wherein frogs and other things live), and, of course, the Columbia River, in our area. I am greatly concerned about the amount of spraying that goes on in our County—the Bonneville Power Administration sprays under their power lines, the railroad sprays along the railroad tracks, the WA Department of Transportation sprays along the roadsides, our County Public Works Department sprays along the roadsides (on County property), homeowners spray gosh-knows-what, orchardists and farmers spray. How much spraying can an ecosystem take?!?

Response: Comment noted.

Comment 55. It sounds as if these general permits will be more stringent than the previously issued administrative orders, which covered pesticide applications. Are they actually going to be more stringent? Why are the general permits going to be issued for 5 years instead of a shorter period of time? Five years is a long time for a permit and situations, and environments, can change a lot during such a long period. I think permits should be subject to a shorter time-frame and more review.

Response: This permit is based on the orders previously issued by Ecology for this activity. It is more stringent only in that NPDES permits allow for citizen enforcement of the conditions and in that monitoring is required. Five years is the standard period of issuance for NPDES permits. Permits may be modified at any time to correct problems that become apparent during the permit period.

Comment 56. All chemicals should have all their effects listed—and all their ingredients, active and inert, should also be listed. From what I have read, inert chemicals are not named. Just because they are called “inert” does not mean that they have no short- or long-term effects.

Response: The effects of the active ingredients have been examined by Ecology in several environmental impact statements as listed in the references. The inert components have not been disclosed to Ecology and therefore there is no permit shield for those components as discussed

elsewhere. Other commenters have pointed out the EPA testing on commercial formulations for environmental effects includes the inert components.

Comment 57. The applicators must also know "the insects and other organisms which may be present in the aquatic environment." Will applicators have to quantify habitat, and the insects and other organisms present in the area where they are spraying? How are they going to do that? This week I saw a lot of dragonflies around a local lake, Ash Lake, and dragonflies live in water as larvae. I'm not sure if these are the rare or listed dragonflies that people talk about— I'm trying to track down the information. These dragonflies are here for only a short time period and if they are not recorded during some type of monitoring, will their habitat, and the habitats of other short-lived (and long-lived) species, be destroyed by spraying?

Response: The permit requires an IAVMP, which should address the issue of maintaining various types of habitat in a lake.

Comment 58. Regarding the Integrated Vegetation and Pest Management (IVPM) plans: It has been my personal experience, from working on trying to get our County to accept a viable, workable IVPM program, that government bodies, and some local people are extremely resistant to any type of change to the routine to which they have become accustomed. Our County had an IVPM committee that toiled for a whole year to put together a good program. The dissent and preconceptions, from landowners, the Extension agent, and the Road Department, were very difficult to overcome—and they weren't overcome. Our County Commissioners took it upon themselves to disband the group, and had the County Extension Agent, who is also a licensed pesticide applicator (from what I know), put together what a really generous person might call an IVPM program, and the County, very recently (and probably because of this new proposal to change the permitting program) adopted this program. I think that any Integrated Vegetation and Pesticide Management program should be vetted by the Department of Ecology. There are IVPM programs and then there are IVPM programs—a program that is adopted by an entity just to show that they have an IVPM named program on the books, is not necessarily a good, workable IVPM program.

Response: Ecology will review and approve the plans required in this permit.

Comment 59. 7) Also, under the "Water Quality Standards", p. 7 of 27, on the Fact Sheet, wherein it is stated that "This General permit assumes that a Integrated Aquatic Vegetation Management Plan (IAVMP), which covers all or a substantial part of a lake, wetland, or other water of the State and which has been subject o public review is sufficient demonstration of a balancing of beneficial uses. Therefore, the permit places less restriction on aquatic nuisance plant control when it is done within the purview of an IAVMP which incorporates an Integrated Pest Management principles. The permit allows for full five year coverage under a single application for those Permittees that have an approved IAVMP." —I don't think so! Your public reviews must be a lot different than the ones done in Skamania County—ours are for show, not substance. Such was the case for the Integrated Vegetation Program that was adopted by our 3 Commissioners, a few weeks ago. Public review down here is having a meeting posted to meet all the legalities and then doing what they want to do no matter what the public input. The Department of Ecology should monitor and vet, and periodically review, all the IVPM programs

that entities adopt. And, DOE should also periodically quantify the effects of the IVPM programs. Are these IVPM programs being properly administered and are they making a difference, for the better, in the lives of our citizens? If they are not, then we need to rewrite them. No five year permits, either!

Response: Ecology will review and approve all plans required by this permit. If we become aware that the plans are not being followed, the entities will be subject to enforcement.

Comment 60. I've read the manufacturer's fact sheets on Oust and Round-up and why anyone would want to use these chemicals is beyond my understanding—they have so many qualifications for use, especially in an aquatic/water environment, that they should never be used if you follow the manufacturer's guidelines. Posting and Signage—I commend you all for having 8.5 X 11 inch posting, and available up 24 x 36 size. Our County sprayed and put down 4 X 6 inch cards, for example, on the Courthouse lawn. The little sign, which one would have to be 12 inches tall to be able to read comfortably, stated that Weed and Feed had been applied, gave a date, and telephone number to call. No chemical name was given. No pre-spray posting was done, so that children and adults, and animals who use the lawn could have been forewarned. I have asked our Commissioners to put up signs on our County roads, to warn visitors that our County sprays. I have also asked that visible, big, permanent signs be put up that detail the spray season and a telephone number to call for spray information. I think that Ecology should require all entities who spray to inform the public in the most visible manner possible, and in a manner in which the most people will be informed, that areas will be sprayed, what areas will be sprayed, during what period, and what chemicals or biological agents will be used. It is important to include biological agents, too. For example, Bt, once thought as a benign agent is coming under increased scrutiny for its long-term environmental effects. Furthermore, I think all water sources (especially where there are salmonids) should be marked (with a very visible marker or post) and mapped out, and the maps available for public review.
Response: The notice and posting requirements have been made the same as the former orders. Please also note that the commercial formulations Oust and Roundup are not approved for direct aquatic use under this permit.

Comment 61. In Skamania, we have a lot of little creeks that run-off into the Columbia River. What are the spray requirements for these little creeks? Salmon do use some of these creeks. Will they need to be marked off-limits? Will the applicator have to deal with Federal entities, too? For example, we have a U. S. Fish and Wildlife Refuge in our County. There are swans and a lot of other wildlife, which uses Franz Lake, which is in the Refuge. And, in the City of Stevenson, there is Rock Pond, which a lot of migratory birds use, and, of course, the ever ubiquitous geese—3 different varieties, and ducks, etc. Not to mention the ospreys, and, this year, a bald eagle nesting pair.

Response: See response to comment 5.

Comment 62. Aquatic herbicides. P.10 of 27, Fact Sheet, states "Aquatic herbicides are water soluble and quickly dilute to non-detectable concentrations. They disappear at different rates and by different methods." They do not disappear. They are either diluted to non-detectable levels

or they are bound up in some manner or form as to not be detectable in their original state, or they recombine into something else. Nothing ever disappears on this planet. Everything recycles through, in one form or another. (That's why man-made toxic materials are being discovered in high elevation alpine lakes that have no history of man's presence nearby.) We live in an interconnected ecosystem. Chaos theory applies—actions in one place will cause reactions in another time and place. Detection is critical to any program, and I don't think that our methods of detection are good enough to measure some of the chemicals, and their by-products, that are being dumped into our environment. And, low-level or a non-detectable level does not mean that a chemical is no longer lethal or does not have short-term or long-term effects. Non-observable effect does not mean no effect is present—it just means our instruments and thinking are not good enough to find it or figure it out!

Response: Comment noted.

Comment 63. Marker Dyes. "Low toxicity dyes," as named in the Fact Sheet, do not excite me. Toxicity is toxicity is toxicity. Better to use all other methods of IVPM before resorting to chemical and biological agents. How toxic are these dyes? What are their long- and short-term effects on humans and the environment? Any health issues?

Response: Only food grade dyes that have low toxicity to aquatic life are approved by Ecology.

Comment 64. Methods of spraying. Will the department instruct applicators on what methods to use and when? (e.g., handgun spraying, or off a truck, etc.?)

Response: Applicators are required to be licensed by the Washington State Department of Agriculture.

Comment 65. How and when is the SEPA review actually initiated? Your Fact Sheet states each IAVMP will undergo SEPA review. What does this actually mean? Is this going to be a public process?

Response: SEPA is primarily for governmental notification; however, these plans also require a public process. See response to comment 7.

Comment 66. Monitoring is a very big part of any IVPM program. That is the first step that one takes in order to figure out just exactly what one is trying to control. Monitoring means keeping records and having those records available for public review. I haven't seen any of that in our County. There is a lot of native vegetation in this area and it is being sprayed every year, by our County and the State. Will monitoring quantify the flora and fauna in our County? How are the labs that are preparing the monitoring data going to be monitored? In your Draft copy of the general permit, p. 23 of 31, it states: "All monitoring data, except for flow, temperature, settleable solids, total residual chlorine, conductivity, pH, and internal process parameters, shall be prepared by a laboratory registered or accredited..." I don't understand this statement—the way I read it, all the things that I think should be done by a lab are excepted. What other monitoring data is there? Does this mean that the applicator will do flow, temperature, settleable solids, total residual chlorine, conductivity, p11, and internal process parameters—whatever that

means— and the lab will do...what? Will all these monitoring requirements go into a database that is accessible to the public? Will Ecology actually review the monitoring data to see if the spray programs are actually working or not? Frankly, I don't think spray programs work—you can't kill off things in an ecosystem, in such an indiscriminate manner. Everything exists for a good reason; just because I cannot not comprehend or understand its value or place in the ecosystem does not mean that it has no value or place. Chaos theory applies. Everything is underpinned by something else. You take out a part of the ecosystem, there will be consequences. There always are. And, most of the time, the consequences are worse than what you started out with.

Response: Ecology is allowing the tests that require little training or expertise to be conducted by people without accreditation. All data submitted to Ecology will go into a database accessible to the public.

Comment 67. In conclusion (and because I have run out of energy!), I would urge the Department of Ecology to look at this permit process through the prism of protecting the entire ecosystem and proponing for the options that, above all else, do no harm, or the least harm possible. I believe that it is your responsibility to keep our entire ecosystem healthy and vibrant. Just because someone is annoyed by a pest does not mean that the pest needs to be obliterated. We need to learn. to live WITH our environment, not against it. Sometimes that means we humans will not be as comfortable as we may wish. I want you all to apply the most stringent rules possible to any process that puts chemical or biological agents into our environment. This is not a situation wherein all sides are right or equal. I believe you should always err on the side of Mother Nature and that there is a right way and a very wrong way to live with Nature. The wrong way is to try to kill anything that doesn't fit in with our preconceptions or comfort levels. Everything in this world has a place and a reason for existence. I think we need to know a whole lot more than we do now before we start killing off what we consider pests and nuisances, in our ecosystem. We're all part of the food chain. We need to be very careful that we don't destroy any linchpins to our survival; I don't know what those environmental linchpins are? Do you?

Response: Ecology has acknowledged that the use of chemicals to control nuisance weeds and algae is not correcting the fundamental problem of nutrient enrichment, however, we have done extensive review of the chemicals authorized in this permit and we believe these chemicals – when used in accordance with the restrictions in this permit – do not present a substantial risk to aquatic life or human health.

Commenter 7

Comment 68. The Washington State Department of Agriculture would like to see the following statement, found in the Nuisance Weed and the Fish Management Control National Pollutant Discharge Elimination System Waste Discharge General Permits (NPDES), removed: "This permit. . . does not shield for those components (inerts and adjuvants) for which the chemical composition has not been disclosed to Ecology."

Federal law requires all pesticides defined under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) to be registered prior to their distribution in the United States. The

registration process is the mechanism by which the Environmental Protection Agency (EPA) examines the ingredients of a pesticide; the site or crop on which it is it be used; the amount, frequency and timing of its use; and storage and disposal practices. The federally registered pesticides listed in the NPDES permits have already undergone extensive review at the EPA. The review includes an assessment of both active and inert ingredients. EPA requires more than 100 different scientific studies and tests to ensure that, when used as directed, the pesticide will not pose an unreasonable adverse impact to human health or the environment. Pesticides labeled for aquatic use undergo additional rigorous testing.

Washington State Department of Agriculture (WSDA) feels that the federal review process is more than adequate to support inert ingredients being "shielded" by the NPDES along with the active ingredients. Additionally, WSDA notes that the other NPDES permits (Oyster Growers, Noxious Weed, Mosquito Control, Irrigation System) do not include such exclusionary language regarding inerts and adjuvants. WSDA feels that the language in the other permits is appropriate and that the above referenced language in the Weed and Fish Management NPDES' be removed.

Response: If the use of these chemicals does not cause a problem then the permit shield issue is moot, however, the language has been removed from the permit. Whether the other permits issued by Ecology contained the language or not, is not relevant because the principle of permit shield does not hinge on the language being included in the permit. For more information see the response to comment 19.

Commenter 8

Comment 69. Plant Control Plans--whether these are called IPM plans, aquatic plant management plans, or lake management plans, I think that these are key to the whole nuisance plant control process and should be made a condition of permit coverage because they force the local sponsors to address alternatives and long term issues. I realize that Ecology does not yet have uniform standards for what should be in a plan, so I think Ecology should develop such standards as soon as feasible. This may be a reason to push off this requirement until 2003. Also, there is not enough time for applicants to complete plans in 2002 if you begin requiring them immediately. Perhaps plans should not be required until the 2nd or 3rd year of treatment, if you want to give the sponsor more leeway at the beginning. And/or, perhaps sites less than a certain size (say 5 acres) might be exempt from the requirement. However the plans are required, I think Ecology should have an opportunity to formally review and approve these plans before they are considered as satisfying the permit coverage condition (maybe you do already, I don't know). In exchange for completing a plan, it might be a good idea to allow a sponsor to apply for more than one year of permit coverage. However, if an annual permit fee based on acres is set when the applicant originally applies for multi-year coverage, there would be less incentive to reduce the acres treated in subsequent years unless there is a fee provision to allow fee adjustments in future years (without formally re-applying for coverage).

Response: Comment noted.

Comment 70. Fees--I support the idea of charging fees based on acres to be treated, and that additional acres should not be treated without amending the application for coverage. The only

concern I have is that the fees are to offset the permit program, and some of the review costs are incurred no matter the size of the proposed treatment. Perhaps the fees could be a minimum fee (say, $75 or $100) plus so much per acre treated.

Response: The legislature has set the maximum fee at $300.

Comment 71. Permittee--I believe that it makes the most sense to require the sponsors and the applicators to be joint permittees for coverage. I understand that the applicators will be most responsible for following the permit conditions, etc., but the sponsors may need to fulfill certain requirements of the permits and, when it comes to culpability if something goes wrong, the sponsors will not be able to avoid involvement anyway. I just don't see the advantages in making the applicators the permittees. And, requiring joint permittees is consistent with what Ecology was requiring for water quality modifications in recent years. One thing I do oppose is an applicator getting a single coverage for all the sites he will be treating in a certain way in one year. I believe that each project and site (but not each individual treatment) should have a separate approved permit coverage (although the coverage might be for more than one year).

Response: Comment noted.

Commenter 9

Comment 72. Permit form Section 1. HOMEOWNERS ASSOCIATION NAME (IF APPLICABLE) should be changed to APPLICATORS NAME and SPONSORS NAME should be changed to ASSOCIATION/SPONSORS NAME.

Response: Sponsors name has been changed.

Comment 73. Instructions Section IV Application Type and Permit form. Can the word DISCHARGER be changed to APPLICATOR as this seems more appropriate for treatments several times a season rather than continually. Can the word DISCHARGE be changed to APPLICATION.

Response: This is an NPDES discharge permit for the discharge of pollutants. The words could be changed but the current wording is closer to the regulatory intent.

Comment 74. Fact sheet - Under OTHER PERMIT CONDITIONS - MONITORING (page 16) it indicates “applications to sites where the total area of treatment exceeds ten acres” must comply with monitoring requirements. Does this mean water bodies with treated areas under ten acres are not required to monitor, report, keep records and use accredited labs?

Response: If a lake treatment is under 10 acres, does not have water withdrawal uses, and does not have threatened or endangered species there is no monitoring required for the herbicide of use. Post-treatment monitoring, reporting, and record-keeping requirements are applicable regardless of the size of treatment.

Comment 75. Appendix C Glossary Best Management Practices (BMPs) is this plan for commercial or industrial permits rather than lake treatment?

Response: This permit contains requirements that are considered Best Management Practices. There is no requirement in the permit for submittal of a BMP plan.

Comment 76. Are General Conditions G2 through G6, and G13 meant for industrial and commercial permits rather than lake treatment?

Response: See Comment 45.

Comment 77. In General Conditions G16, G17 and G20 request that the word discharger be changed to permittee

Response: See Comment 45.

Commenter 10

Comment 78. I have some questions with regard to the draft of the nuisance plant and algae control permit. I am Western Regional Sales Manager for Applied Biochemists and as we are manufactures of copper algaecides and herbicides. I am most interested in your stance on coppers in the draft fact sheet. As the draft states that coppers are not allowed under the permit, are there any waters in the state not covered by the permit? In your opinion will this mean a complete elimination of the use of copper in Washington or will it still be available for use in private waters not connected to waters of the state.

Response: All surface waters are waters of the State, therefore, copper will not be allowed for nuisance algae control.

Comment 79. Could you provide me some reference to the data you are using to determine the 0.017 ppm criteria for protection of aquatic organisms? I would also be very interested in any studies on the build up of copper in sediments due the use of chelated coppers over time.

Response: The water quality criteria for dissolved copper are given in Chapter 173-201A WAC *Water Quality Standards for Surface Waters of the State of Washington*. The acute criteria for a water of 100 mg/l hardness (as $CaCO_3$) is 17.02 ppb (0.017 ppm). The chronic criterion is 11.35 ppb (0.011 ppm). Studies of copper accumulation in lake sediments are listed in the publication *Copper in Sediments From Steilacoom Lake, Pierce County, Washington* by Bennett and Cubbage, 1992, available from Dept. of Ecology publications office.

Comment 80. I noted that you have added Aluminum Sulfate to the permit, could you also provide me with the data used to determine the safety of this product as it is similar to copper in its degradation properties.

Response: Neither copper nor aluminum degrade because they are elements. However, the aquatic criteria developed by USEPA in 1988 for Aluminum were 87 ppb acute and 750 ppb

chronic. These criteria have since been withdrawn because of conflicting data on pH effects and because the criteria may be higher than the solubility of aluminum. The development document by EPA (EPA 440/5-86-008) lists all literature on aquatic life effects reviewed up to 1988. Aluminum compounds are routinely used in the treatment of drinking water. A discussion of studies on human health effects of aluminum can be found on the website for the American Water Works Association (www.awwa.org). Ecology does not believe there are any potential health effects in the use of aluminum compounds for nutrient control in lakes.

Comment 81. Could you tell me where a product like Aquashade which is colorant that has an EPA registration as a herbicide would fit into this permit process? Have you considered weather these types of products would be allowed?

Response: Aquashade may be considered in the future for inclusion in this permit. The labels for these products do not give any aquatic toxicity data and an inquiry to the companies received no response.

Commenter 11

Comment 82. The permit is well written and easy to follow. I would suggest that the conditions of this permit follow in line with the Final NPDES Noxious Weed Control Permit where ever feasible (based on Ecology's EISs). There are scenarios, especially when making aquatic applications to mitigated wetland sites, where both Noxious and Nuisance weed control measures will be performed at the same time. Conflicting requirements for these two applications increases the potential of errors being made in following the permit conditions.

Response: See other comments that contain specific recommendations for consistency.

Comment 83. It appears that the permit does not cover the private sector for 'indirect' applications. Although this group of applicators may not be extensive, there is a need for them to be able to control invasive and exotic weed species at wetland mitigations sites created by private developers and landowners. The requirements under 'Direct' applications are too restrictive for herbicide applications to control emergents. My understanding of an 'indirect application' is one that is made to the plant itself (emergent), and not made directly into the water. It would be beneficial if the definitions of 'indirect' and 'direct' applications were included in the permit.

Response: The permit scope has been broadened to cover the private sector for control of invasive and exotic plants at wetland mitigations sites. A definition of indirect application has been added to the permit.

Comment 84. I question the posting requirements for the use of glyphosate for 'indirect' applications. It would be highly unlikely that the general public would enter a treatment site prior to any reasonable re-entry time (glyphosate is dry). Posting along roadways, highways, and freeways is not always realistic. Consider removing the posting requirements for indirect

applications. If Ecology feels that posting is necessary, then the timing requirement needs to be changed to 'post within 24 hours' for indirect application at wetland mitigation sites. Again, it is not realistic for WSDOT to send someone to a site that may be 100 miles away, just to place a sign out the day before so we can spray. Posting 'at least 24 hours prior' makes sense for applications made to lakes and rivers bordered by residential areas, but not Right of Ways and wetland mitigation sites.

Response: Agreed. This requirement has been changed.

Comment 85. The requirement to call, or fax, Ecology 'at least 24 hours prior the application' makes sense for direct aquatic applications to lakes and rivers, but I question the benefit for 'indirect' applications. If the general public has questions, they would most likely contact WSDOT and at that time we would provide them with the aquatic permit information, however, if Ecology feels that the contact requirement is valid for 'indirect' applications, I would suggest that the notification be changed to 'call by the end of the workday prior to the application'. This would allow more flexibility (and accuracy) in the notification process. Herbicide applications (glyphosate) are weather dependent, as well as dependent on available work force.

Response: The requirement for notification of Ecology is changed as recommended.

Comment 86:

* S.2.B.

1. Add 'wick applicators' to list of acceptable methods.

2.a. Add R-11 and X-77.

2.b. Delete 'order' and replace with 'permit'.

3. Delete 'and/or'.

5. Add 'along the shoreline' after '1/2 mile'. This simply clarifies that if the treatment area is isolated, you can make the application even if you are within 1/2 mile of a public use area.

Add ' 2,4-D dimethylamine formulation may be used providing the conditions S.2.A.4. are met'.

Response: Wick applicators are included in “hand-held methods”. The surfactants R-11 and X-77 are allowed but will be reviewed in a future EIS. The word order is replaced. Added “along the shoreline.” If 2,4-D is used on dry land, no authorization is necessary. If 2,4-D is applied to water, an application form for direct use should be submitted.

Commenter 12

Comment 87. Recommend you change the definition of “Publicly Accessible Areas” to “Known public access points or areas that the applicator(s) knows that the public *uses for access to waters of the state.*

Response: This limits the definition too narrowly.

Comment 88. S2 paragraph 2 – delete herbicide

Response: Change made.

Comment 89. Recommend that 2,4-D be allowed for indirect applications with restrictions.

Response: If 2,4-D is used in areas that will be dry for the expected life of the chemical after application then no coverage under this permit is necessary. If 2,4-D is applied directly to waters, it's expected the applicant will follow the direct application process, including a separate application for coverage.

Comment 90. For indirect applications we recommend no posting requirements if the no portion of the treatment site contains publicly accessible areas.

Response: Agreed.

Comment 91. Recommend the attached Format for a Roadside Vegetation Management Plan (RVMP) be included as Appendix B of the permit.

Response: The format of the proposed RVMP was adopted from the IAVMP plan and does not seem to properly fit. Language has been added to the permit saying the plan as submitted shall address IPM principles.

Commenter 13

Comment 92. I recommend the following language to be consistent with the noxious permit: The local habitat and/or fish biologist from the Washington State Department of Fish and Wildlife shall be notified at least fourteen days before endothall is applied to salmonid-bearing waters. Endothall shall not be applied to a waterbody when, in the opinion of the habitat and/or fish biologist, juvenile salmonids would be adversely impacted. The notification requirement will remain in effect until such time that the Washington Department of Fish and Wildlife develops site-specific timing windows for herbicide application. When and if Fish and Wildlife has approved site-specific timing windows, they may be used in lieu of the notification requirement.

The local habitat and/or fish biologist from the Washington State Department of Fish and Wildlife shall be notified at least fourteen days before 2,4-D is applied to salmonid-bearing waters. 2,4-D shall not be applied to a waterbody when, in the written opinion of the habitat and/or fish biologist, juvenile salmonids would be adversely impacted. The notification requirement will remain in effect until such time that the Washington Department of Fish and Wildlife develops site-specific timing windows for herbicide application. When and if Fish and Wildlife has approved site-specific timing windows, they may be used in lieu of the notification requirement.

Response: The change is made.

Comment 93. I recommend that the notification posting requirements for lake treatments should be at least as stringent as the noxious weed treatment permit which were derived from the former short-term modifications.

Response: Agreed.

Comment 94. Would people discharging into golf course ponds or other such artificial situation that does not have an outlet need to be covered by an NPDES permit?

Response: Yes, this is a discharge to State's waters whether or not they are "navigable waters of the U.S." The court has determined herbicides applied to water are pollutants. The discharge of pollutants to State's waters requires a discharge permit. Ecology has the option of covering this type of discharge under a separate state discharge permit; however, this general permit is issued under State and Federal authority.

Comment 95. Marker dyes are not adjuvants. I suggest that we make a separate sentence to include the marker dyes.

> **Nuisance Permit**: "The adjuvants for emergent aquatic plant control shall include marker dyes, the surfactants R-11, X-77, LI-700 and other registered surfactants as they are approved by EPA FIFRA, Washington State Department of Agriculture, and the SEPA process is completed."
>
> I suggest you use the language in the noxious permit as follows:
>
> **Noxious Permit**: "The adjuvants that may be used for emergent weed control shall include R-11, X-77, LI-700 and other registered surfactants as they are approved by the SEPA process.
>
> Food grade marker dyes may be used for marine and freshwater emergent control activities."

Response: The suggested language is incorporated.

Comment 96. I recommend the following sentence be made consistent with the noxious permit.

Nuisance Permit: "When an EPA label has restrictions and/or precautions for livestock watering and irrigation use, the applicator must obtain advance written permission and acknowledgment from those who withdraw surface water as their sole source of water for such use within a four hundred- (400) foot radius of the area to be treated. The area cannot be treated until people who withdraw water agree not to use the water during the restricted period. This statement must identify the herbicide(s) being used, the date(s) of expected treatment, and all water use restrictions and precautions. The written consent of water users shall be kept on record by the applicator for seven (5) years and be hand delivered or mailed to Ecology immediately upon request."

The noxious permit as changed in response to these comments is as follows:

> "When an EPA label has restrictions and/or precautions for livestock watering and irrigation use, the applicator must notify those who withdraw surface water as their sole source of water for such use within a four hundred- (400) foot radius of the area to be treated. This statement must identify the herbicide(s) being used, the date(s) of expected treatment, and all water use restrictions and precautions. The area cannot be treated until people who withdraw water have been notified and alternative water supply is available and provided if requested by the affected water user(s).

Response: The language was changed.

Comment 97. I recommend you include the alternative analysis for fluridone, 2,4-D and endothall as follows to be consistent with the noxious permit: "Industry pointed out that there is a new class of analytical techniques that may be used accurately to detect some herbicides. Enzyme linked immunosorbent assay (ELISA) methods have been developed for fluridone, 2,4-D, and endothall.

> **Nuisance Permit**: Sampling and analytical methods used to meet the monitoring requirements specified in this permit shall conform to the latest revision of the Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136 or to the latest revision of Standard Methods for the Examination of Water and Wastewater (APHA), unless otherwise specified in this permit or approved in writing by the Department of Ecology (Department).

We addressed this by adding an extra couple sentences to the sampling method paragraph as follows:

> **Noxious Permit**: Analyses for fluridone may be conducted at the SePRO Corporation laboratory and those results may substitute for the requirements in this section (S2B).
>
> Analyses conducted using enzyme linked immunosorbent assay (ELISA) methods may substitute for the requirements in this section (S2B).

Response: Agreed

Commenter 14

Comment 98. Recommend changes to S1.D.4 to make it consistent with our current application for coverage

Response: Changes made

Comment 99. Section S2.A.2.e and f are duplicative and 7 days before application is probably not sufficient time for the Dept. of Fish and Wildlife to respond.

Response: Changes made.

Comment 100. Section S2.A.3.g should be the same as S2.A.2.f.

Response: Change was made.

Comment 101. Recommend that S4.A. be changed to require notification by FAX to be consistent with our practice under previous orders.

Response: Changes made.

Commenter 15

Comment 102. The use of chemicals causes the nutrients to be released in the lake which then may cause higher plant growth or algal blooms.

Response: Comment noted

Comment 103. I observed fluoridone move through the ground water from an application at Long Lake to Woodland Springs.

Response: Ecology investigated the application and found no movement through ground water.

Comment 104. NEPA is required on this permit.

Response: We have not been advised by our AAG that NEPA is required for this permit.

Comment 105. Ecology should follow an integrated process on these permits so we don't overlook synergistic effects.

Response: It's not clear from the comment which regulatory actions are recommended be integrated.

Commenter 16

Comment 106. I am opposed to the use of chemicals on weeds and believe we should be using manual removal methods.

Response: Comment noted.

Commenter 17

Comment 107. The concentration of PCB in the environment and in Orca whales is indicative of an environmental crisis.

Response: Comment noted.

Commenter 18

Comment 108. The permit is not clear on the length of coverage for those applicants without an IAVMP.

Response: The length of coverage for those applicants without an IAVMP is one season.

Comment 109. We believe the use of copper should be allowed for the control of planktonic algae on a case-by-case basis.

Response: The use of copper could be allowed if the applicant were to develop a Water Effects Ratio and track sediment concentrations. This is not possible in a General Permit such as this.

Comment 110. We believe that only those water users that have legal withdrawals from the lake should be required to be notified directly.

Response: See comment number 24 and response.

Comment 111. We would like a definition of permit as a shield.

Response: See responses to comment 19.

Comment 112. We support the process that allows two treatments prior to submittal of an IAVMP.
Response: Comment noted.

Comment 113. We need further guidance from Ecology on how to complete a plant inventory.

Response: Guidance is available on the Ecology Web site at:
http://www.ecy.wa.gov/programs/eap/lakes/aquaticplants/index.html

Comment 114. We request that Ecology use an Internet web page to provide one of the two public notice requirements required by law.

Response: We agree that publication on the web, which would constitute the requirement for one of the two required public notices, is desirable. We are posting notice on our web site however; we have not checked with the AG's office to assure web publishing meets the requirement of Chapter 90.48 RCW. We will be doing this in the next year and subsequently notify permittees and applicants.

Comment 115. We would like clarification on the monitoring requirements for 10 acres or less. Is this treatment size or lake size?

Response: This is treatment size.

Comment 116. We would like clarification that no monitoring is required for treatment of native vegetation versus the treatment of threatened or endangered vegetation.

Response: The word native has been removed from this section.

Comment 117. Where references are made to WDFW approval does this mean a hydraulic permit?

Response: No

Comment 118. On the application there is a draft application most of the information that is contained in that is also contained in approved integrated aquatic vegetation management plan and it would appear that most of the information will be redundant once you have an approved plan. So the question would be is there – you know – you may consider in the application that says if you have an approved plan then you don't – you can skip to section X and not have to repeatably fill out redundant information.

Response: If an applicant submits an IAVMP the permit coverage is for the period of the balance of the permit. We will change the application before the next issuance of this permit to allow reference to an approved IAVMP.

Comment 119. On the same application if you do not have an aquatic vegetation management plan in place there are very limited areas for explaining waterbodies characteristics and chemical treatment areas we need to know whether or not and it should indicate on the application form whether attaching extra sheets is appropriate.

Response: Comment noted. We will modify the application to note extra sheets are appropriate.

Comment 120. Regarding fees we understand that there is a $300 fee for obtaining the approval rather than the application itself; however, we want to be assured that there are no extra fees such as – that for the review of SEPA checklist, the review of spill prevention plan, or the review of the integration aquatic vegetation management plan. And we would like to say – we would prefer there be no further fees

Response: There are no further fees at this time.

Comment 121. And finally there are those in our society and in the world that feel that life is better through the use of chemicals whereas others would advocate to total bans. We feel that a reasonable use or balance is required. We feel that this permit will help achieve that balance by setting limits, authorizing use of herbicides and algaecides, hopefully

Response: Comment noted.

Commenter 19

Comment 122. Again, as stated by other commenters of the permit application or the NPDES permit is proposed is not allow the use copper base products to control algae. Which basically makes this permit an unusable permit for algae control in Washington State. The alternatives mentioned in the report Hydro____ 191 have been proven that they not effective against platonic algae and particularly the toxics platonic algae that plagues numerous or numerous lakes in our state. One of the reason part of Ecology has banned use of coppers is the fact that it has a tendency to accumulate in ponds setting, but yet they are proven in the use of aluminum sulfate whereas aluminum also bonds with the bottom sediments and once aluminum is applied to lake bottom, it remains in the lake bottom. So I would like to Ecology to comment as to why they proposed and allow the build up alum in lake bottoms, but they will not allow the use of copper to be built up in lake bottom. I am sure if we go through literature searches we will find numerous organisms and other creations that are impacted by alum bottom sediments.

Response: The literature reviewed by Ecology indicates aluminum is practically nontoxic in comparison to copper.

Comment 123. The NPDES permit does not address the use of any pond dyes. That is a critical component of lake management and we feel that component should be addressed and improved in this NPDES permit

Response: See response to Comment 81.

Comment 124. The other comment which was addressed briefly about modifications to water right users of irrigation users, again Ecology is the agency's that is legal holder of those permits, we as advocates have accessed those permits and obviously we only notify those residents that are on notice with the Department of Ecology that are legal water right users.

Response: See comment 24 and response.

Commenter 20.

Comment 125. Activities covered. The Talent Decision specifically exempts isolated waters from the requirement for an NPDES permit when aquatic herbicides are used. In addition, the decision specifically applies to "Waters of the US", not "Waters of the State". Isolated waters and waters not considered Waters of the US should be specifically exempt from the need for this permit. In addition, the exemption you offer here for man-made detention ponds covered by an NPDES is problematic, your permit assistance center doesn't know about this type of permit. They have a construction permit and an industrial permit by don't know about a permit for storm water ponds.

Response: See response to comment 94 above.

The exemption language is removed from this permit. If permittees covered under the Industrial Stormwater General Permit, the Municipal Stormwater General Permit, or the Construction Stormwater Industrial identify the use of herbicides to maintain their stormwater

retention/treatment systems in their Stormwater Pollution Prevention Plan they are covered under those general permits.

Comment 126. How Coverage can be obtained, no. 2. The requirement to submit an application 38 days prior to the plant activity may be workable, but providing a copy of the public notice is problematic. Different newspapers have different time frames for getting these back to us and this can take weeks. This could un-necessarily delay necessary treatments. In number 3 under the same heading, we discussed this at length in the advisory committee meeting and I thought we agreed that one of these was enough. These notices are extremely expensive. Smaller projects such as golf course ponds and other sites would have to pay exorbitant fees compared to the cost of the work. In section 4, we agreed in the advisory committee meeting that we could minimize the amount of this information that had to be published if we had a web site where interested parties could go, these things can be hundreds of dollars based on the number of words.

Response: The Permittee has to develop the copy text (using Ecology model language), which is submitted to the newspaper to be published. This permit requires that copy text to be submitted with the anticipated publication dates, not the galley proof from the newspaper.

Also, see response to Comment 114.

Comment 127. Under length of coverage, there is a discussion regarding the IAVMP and its requirements. Our experience with Ecology with respect to the approval of these plans has been extremely negative. Two of our clients have been told directly by Ecology staff that IAVMPs will never be approved as long as they contain provisions to use aquatic herbicides. In addition, IAVMPs our firm presented last year were all denied while our competitor who currently has tens of thousands of dollars of fine due to your department got all of his plans approved. A public records request found that his approved plans contained dramatically less information than did our. If this condition remains in this permit, there is going to have to be a mechanism to appeal Ecology's staff denial of these plans or legal action may be necessary in those cases. We can't in good continence charge someone to develop a plan that Ecology staff indicate they will deny.

Response: Aquatic herbicides are approved for use subject to the restrictions in this permit. If an applicant feels there is an unfair rejection of an IAVMP that was produced in good faith, that rejection is appealable to the Pollution Control Hearings Board under Chapter 34.05 RCW *Administrative Procedure Act*. Ecology expects that the level of effort with preparing these IAVMPs will be proportional to the number of complicating factors such as the amount of public access, the number of beneficial uses of the lake, the size of the lake, etc.

Comment 128. With respect to those materials approved for use under this permit, the Department is not allowing any product for the control of algae. The fact sheet mistakenly states that all lake sediments are owned by the State and uses that rational to deny the use of copper. That statement is not accurate, there are many small ponds created on private property that are owned by those persons. Copper should be allowed at least in those cases.

Response: The statement in the fact sheet after correction by the advisory group says "natural lakebeds." As also discussed in the fact sheet, private property is not exempted in Chapter 70.105 RCW *Hazardous Waste Cleanup – Model Toxics Control Act*. Aluminum compounds, which are practically non-toxic, are identified as an alternative for planktonic algae control.

Comment 129. Under Endothall and specifically Hydrothol 191, this permit indicates that this material can only be used for filamentous algae. If that is the case, there is no allowed option for control of planktonic or toxic algae if copper remains banned by your department. There is no reason to restrict the use of this material to filamentous algae.

Response: Hydrothol 191 is one of the more toxic herbicides identified in the supplemental environmental impact statement but is very effective for filamentous algae control. Aluminum compounds are identified as an alternative for planktonic algae control.

Comment 130. Under posting requirement for direct and indirect aquatic applications, the first sentence indicates that signs should be posted "no less than 24 hours prior an application." That should read "no more than 24 hours prior to an application." The signs should go up just before the treatment and this condition as written requires an additional trip to the lake at least one day before. This will cause confusion among the homeowners and is an un-necessary additional expense they will have to bear.

Response: The wording will be changed.

Comment 131. Under Table 1, sampling schedule, the intervals for collecting water samples should be the same in both categories for each product. As this is written now, two trips will have to be made where one trip should be adequate. Again this will add excessive costs to the residents of these lakes if not changed.

Response: It was anticipated that the sampling of receiving water outside the application site would be done immediately after treatment, weather permitting. Therefore, no additional trip would be required for this sampling. Note that these sampling requirements are the same as required by Ecology in previous orders.

Comment 132. Under s-6, sampling procedures, the aquatic herbicides we use are not priority pollutants and directions for sampling and processing in most cases are not present in these documents.

Response: The sampling and preservation methods should be as for pesticides under 40 CFR Part 136. Accredited laboratories can direct you for proper containers and sampling procedures.

Comment 133. Under g-14, use of accredited labs, there are a number of parameters such as dissolved oxygen profiles that are collected in the field using instruments. Forcing us to hire staff and make them travel from their accredited lab will result in excessive and ridicules costs the lake residents will have to bear.

Response: Dissolved oxygen, pH, Secchi disk, and turbidity are process control parameters and do not require accreditation. Text is added to S6 to clarify this.